

# How to <sup>s</sup>Reverse Diabetes

The ultimate handbook for using foods, supplements and lifestyle changes to slow and reverse the complications of diabetes.

**by Patrick Quillin, PhD, RD, CNS**



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*The Leader Co., Inc.  
North Canton, Ohio*





**Other books by Patrick Quillin (website: [www.4nutrition.com](http://www.4nutrition.com))**

- BEATING CANCER WITH NUTRITION, Nutrition Times Press, Carlsbad, CA, 2001
- THE HEALING POWER OF CAYENNE PEPPER, Leader Co., Inc., Canton, 1998
- KITCHEN HEALTH TIPS (video), Nutrition Times Press, Tulsa, 1997
- HEALING SECRETS FROM THE BIBLE, Nutrition Times Press, Tulsa, 1996
- HONEY, GARLIC & VINEGAR, Leader Co., Inc., N. Canton, OH, 1996
- HEALING POWER OF WHOLE FOODS, Vitamix, Cleveland, 1994
- ADJUVANT NUTRITION IN CANCER TREATMENT, Cancer Treatment Research Foundation, Arlington Heights, IL, 1994
- AMISH FOLK MEDICINE, Leader Co., Inc., N. Canton, OH, 1993
- SAFE EATING, M. Evans, NY, 1990
- THE LA COSTA BOOK OF NUTRITION, Pharos Books, New York, 1988
- HEALING NUTRIENTS, Contemporary Books, Chicago, 1987
- THE LA COSTA PRESCRIPTION FOR LONGER LIFE, Ballantine, NY, 1985

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**TELL US YOUR STORY**

We want to hear your experiences about using nutrition as part of your diabetes treatment. Please send us your personal experience with an address or phone number on how to contact you. Your story may provide hope and inspiration for others suffering from the same condition. Thank you.

**DEDICATION**

My utmost admiration and appreciation go forth to the bold physicians and healers throughout history who were more concerned with their patient's welfare than peer approval.

**IMPORTANT NOTICE!!! PLEASE READ!!!**

The information in this book is meant to be used in conjunction with the guidance of your health care professional. The remedies and products described here are neither advice nor prescriptions, but provided for educational purposes only. If you think you have a medical problem, then please seek qualified professional help immediately. In the event that you use this information without your doctor's approval, you are prescribing for yourself, which is your constitutional right, but the publisher and author assume no responsibility. If you cannot accept these conditions, then you may return this book in new condition for a full refund. Do not use this information as sole therapy against any disease. Nutrition supplements and food products described in this book are not intended to diagnose, treat, cure or prevent any disease. This information has not been evaluated by the Food and Drug Administration.



**THIS PROGRAM WORKS! FOLLOW THE RECOMMENDATIONS IN THIS  
BOOK AND YOU CAN BETTER MANAGE OR EVEN REVERSE THE  
SYMPTOMS OF DIABETES**

**TESTIMONIALS FROM OUR CUSTOMERS WHO HAVE USED THIS PROGRAM**

"I feel I must write to tell you how very much you have helped me over the past 2 1/2 months. Prior to this, I was so ill with alarmingly high blood sugar levels, at times exceeding 300 mg/dl. I was constantly sick and extremely dizzy; unable to speak or stand up. Now, after being on your program, I have lost so much weight. My sugar levels are completely normal. My energy has returned and 2 days ago I reduced my morning insulin dose. Being in my 60s, I was diagnosed with diabetes 10 years ago. One line in the book says "Don't concentrate on what you can't have, but on what you can have." and that really works for me. Thank you so much, Dr. Quillin. You have changed my life."

R.G. Spain

"I could go on and on; use words like 'miracle' and 'lifesaving' and 'stunning information' and I guess I will say those things! They all describe what has occurred in the life of my lifelong friend, P\_\_\_. Her adult life has been marred by morbid obesity, hypertension, joint problems and diabetes. She happened upon the ad for your book. It was almost too late for her. The diabetes medication she was on was killing her, literally. After following your program, she has lost 60 pounds. Weight loss has never been possible for her before. She experienced a treat the other day: she was able to walk out to her mailbox. She tells me she is 'feeling the best I've felt, as an adult and perhaps in my life.' Your program is working miracles for her. Thank you again."

G.H. Michigan

"Just wanted you to know that your book was a neuropathy foot pain sufferers dream. Lipoic acid has changed and improved my feet by 90%. Thank you."

D.B. Minnesota

"Thank you! Thank you! Thank you! Every diabetic should read this book. It is truly fantastic. It has been a tremendous help to me. I have just been following what has been suggested in the book for a few weeks. My blood sugar is lower and I have a lot more energy. I am not one who likes to attend meetings and seminars, and after finding this book, I don't feel the need for attending them. Thank you again for such a wonderful book for diabetics like me.

YOU HAVE HELPED MY LIFE."

J.S. California

"My personal experiences with diabetes would curl your hair. But I am now reversing adverse effects of my type 2 insulin resistant diabetes. Dr. Quillin, I cannot thank you enough for your dedication to research and to your wife, Noreen, for her recipes." C.J. New Jersey



"I am a registered dietitian and certified diabetes educator. I am very impressed with Dr. Quillin's information and feel many of my patients would benefit from reading this book."

K.G. New York

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"Diabetes is an insidious disease. This disease went undetected in me for 3 years. After spending approximately 12 days and \$15,000 in tests, the doctors told me 'I'm sorry, we can't help you.' In the meantime, I really thought I was dying. I happened to read your book. I followed the recommendations and the results have been phenomenal. I have regained feeling in my feet that allows me to get back to driving a car. I do not need to use a cane anymore. I have ordered several more copies of your book to give to my children and told them 'I really believe if you follow this book there's a chance you will never get diabetes.' I am a firm believer in taking vitamins. My blood sugar every morning is between 82 and 98. Thank you, Dr. Quillin. You have saved my life."

H.N. Alabama

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"I can't begin to tell you how this book has changed my life! I come from a long line of diabetic family members. I had ordered your book and looked for things to help my very painful neuropathy in my feet. I started taking B-12 and lipoic acid and had some help with the pain, but when I read your book and started using all the things you recommend, my whole body felt better! Thank you so much!!!!"

M.B. Florida

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"I continue to enjoy much better health because of the information in your book. My feet have completely healed from neuropathy because I have followed your guidelines. It's a book every diabetic should have!"

D.C. Utah

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"Your book has made a difference in my life. I have been a diabetic since 1978 and wish that your 'bible' was around then. I have used the cinnamon you mentioned. Great idea!"

W.H. California

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"I read about your brewer's yeast and apple cider vinegar. I lost 3 pounds last week and 3 pounds again this week. I've been frustrated for the past 3 years searching for help. You've given us health and a few more years together. Best wishes and God bless you."

R.W. Washington

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"I received your book. It is very, very outstanding. Send me another copy."

H.O. Texas



# CONTENTS

	<u>page</u>
EXECUTIVE SUMMARY	6
1. UNDERSTANDING DIABETES	7
How is this book going to help you?	7
Does lifestyle or genetics cause diabetes?	7
Changing the underlying causes of diabetes	8
Diabetes: simple but deadly	8
Incidence of diabetes in US and world	8
A little history on diabetes	9
Categories of diabetes	9
Can my doctor cure diabetes?	10
What are the complications of diabetes?	10
Will this program improve my type 2 diabetes?	11
Blood sugar, food sugar & diseases of civilization	11
Time release food supply	12
What are the "roots" of diabetes?	12
The slippery slope toward diabetes	13
2. KILLING US SWEETLY	15
3. GLYCEMIC INDEX	19
4. MALNUTRITION IN AMERICA	22
5. NUTRITIOUS & DELICIOUS	27
One week of healthy eating at a glance	41
6. SUPERFOODS	42
7. SWEETENERS	46
8. NUTRITION SUPPLEMENTS	50
9. EXERCISE	63
10. CHANGING THE UNDERLYING CAUSES	65
APPENDIX	69



## EXECUTIVE SUMMARY

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*"Natural forces within us are the true healers." Hippocrates, father of modern medicine, circa 400 BC*

If you are too tired to read this entire book, then please read this short summary to get you started. Once you are under a doctor's care for your diabetes, then please do the following basic steps to get your health moving in the right direction:

- ♥ DETERMINATION. Have a firm conviction that you can improve your health through lifestyle changes such as diet, exercise, and supplements. You can make a difference in the outcome of your diabetes.
- ♥ LOSE WEIGHT. Gradually begin a weight loss program. 90% of Type 2 diabetics are overweight. Weight loss usually brings considerable improvements in blood glucose regulation and, for some people, return to a healthy weight brings complete remission of the diabetes.
- ♥ EAT WHOLESOME NATURAL FOODS. Eat a diet of natural unprocessed foods. Shop the perimeter of the grocery store where you will find fresh fruits and vegetables, chicken, turkey, fish, meat, eggs, and whole grain bread. Venture into the "deep dark interior" of your grocery store only to get sacks of dried beans and brown rice.
- ♥ RATIO OF MACRONUTRIENTS. Mix your food in ratio of about 25% protein, 25% fat, and 50% complex high fiber carbohydrates. This means that looking at your dinner plate, you need to have about 1/3 of the plate covered with lean and clean protein food, such as chicken, turkey, fish, lean beef, pork, or beans. Another 1/3 of your plate needs to be covered with cooked plant foods, such as beans, vegetables, bread, squash, potatoes. The remaining 1/3 of your plate needs to be uncooked and unprocessed plant foods, such as a tossed salad of fresh colorful vegetables. Include the superfoods of brewer's yeast, flax oil, cinnamon, garlic, vinegar, onions, and fish in your diet often.
- ♥ Drink at least 8 cups of clean water daily.
- ♥ Get 30 minutes of exercise daily. Brisk walking is the most realistic, since you can do it without a partner, anywhere, anytime.
- ♥ Take the following nutritional supplements on a daily basis: 500 mg vitamin C, 500 mg niacin (inositol hexanicotinate), 50 mg B-6, 600 mcg B-12, 400 iu vitamin E (mixed tocopherols), 300 mg magnesium citrate, 300 mg sulfur (methyl sulfonyl methane), 6 mg manganese, 10 mg zinc (picolinate), 2 mg vanadyl sulfate, 400 mcg chromium picolinate, 100 mg lipoic acid, 100 mg L-carnitine, essential fatty acids of 1000 mg EPA and 250 mg GLA, 200 mg gymnema sylvestre, 200 mg bitter melon extract, 100 mg ginseng. You can buy these items individually at your local health food store or on the internet. See Appendix for where to buy items suggested in this book. For a convenient and economical "all in one" vitamin, mineral, herbal, fatty acid supplement, consider buying ImmunoPower EZ available by calling toll free 1-800-247-6553 or online at ImmunoPower.com.
- ♥ If you will adhere to the program outlined in this book, then the Type 2 diabetic can expect to find the following benefits: better control of blood sugar, lower ketones and more energy, better wound healing, better eyesight and lowered risk for eye complications, better circulation to the feet and hands and reversal of "numbness" and neuropathies, lowered fats in the blood to prevent heart disease, lowered risk for kidney damage, improvement in mental and physical energy levels including memory and alertness.



## CHAPTER 1



# **-UNDERSTANDING DIABETES - A MODERN EPIDEMIC**

"Sugar is without question the number one murderer in the history of humanity." Sakurazawa, Japanese author of 50 books on natural healing, 1964

### *HOW IS THIS BOOK GOING TO HELP YOU, THE DIABETIC READER?*

No one with a headache is suffering from a deficiency of aspirin. And the vast majority of Type 2 diabetics do not have a deficiency of insulin. Their entire blood glucose regulatory mechanisms are malfunctioning. This book is going to give you the tools to understand how diabetes begins, what are the underlying causes, and how to make reasonable changes in your lifestyle that beat diabetes with nutrition. This DIABETES IMPROVEMENT PROGRAM can have a huge impact in your quality and quantity of life and prevention of the common complications of diabetes, such as eye, kidney, nerve, and heart problems. This book shares with you the secrets of a handful of "superfoods" to add to your daily diet, some examples of nutritious and delicious foods to control blood glucose, a few inexpensive nutrition supplements, the importance of 30 minutes a day of exercise, and the crucial therapy of reaching your ideal body weight.

With this clinically proven, scientifically validated, logical, and inexpensive program, you will find a new level of vigor that you haven't felt in years. If you follow the recommendations in this book, then it will likely add years to your life and life to your years.

### *DOES LIFESTYLE OR GENETICS CAUSE DIABETES?*

The Pima Indians of the Southwestern United States can help us answer this question. A physician who worked with the Pima Indians found 1 case of diabetes among the entire Pima tribe in the year 1908, which was around the time that these Native Americans began to embrace the "western" diet of highly refined carbohydrates and sugar. When Dr. Elliott Joslin, founder of the Joslin Clinic, visited these Pima Indians in 1937, he identified 21 diabetics. In 1954, Drs. Parks and Waskow recorded 283 diabetics on the same reservation. By 1965, there were 500 Pima diabetics. Today, nearly 60% of all Pima adults suffer from Type 2 diabetes. However, a splinter group of genetically similar Pima Indians living in New Mexico who did not embrace the western lifestyle of sugar, salt, fat, alcohol, obesity and sedentary lifestyle have an extremely low incidence of diabetes.<sup>1</sup> Most Pima Indians probably have a genetic vulnerability to diabetes that only surfaces when they eat the wrong foods and become obese through sedentary lifestyle. Most diseases, actually, are a collision between a genetic vulnerability and environmental insult.

Another example of the role played by lifestyle on diabetes involves the Yemenites from the Middle East who have lived in Israel for over 25 years and have a much higher incidence of diabetes than Yemenites who continued to consume the low sugar unrefined diet in their native land. The diet of both groups of Yemenites has similar calories, and ratios of protein, carbohydrates, and fats. The only difference in those Yemenites who have a much higher incidence of diabetes is the 20% of calories consumed from refined white sugar.<sup>2</sup>

Americans have also moved from various ancestral diets throughout the world that had almost no sugar to the "modern" diet of 20% of calories from sugar. We have suffered the consequences in deviating from our lifestyle that kept our ancestors alive. The incidence of diabetes has doubled over the past decade from 10 million to now nearly 20 million Americans with diabetes, half of which don't even know that they have the disease. Diabetes is now one of the most rapidly growing diseases in America--primarily because of our poor diet and sedentary lifestyle.

Researchers now speculate that ancestral groups who have a "thrifty gene", or have been exposed to frequent periods of famines, are more vulnerable to diabetes. These people survived famines with the ability



to conserve calories. Yet when food is abundantly available, as it is in America today, and these people get obese, this thrifty gene turns poor diet and obesity into diabetes.

Americans consume over 10 billion doughnuts per year and 15 billion gallons of soft drinks, much to the detriment of our health. Is it worth it? This book is about empowerment, not about guilt. It is about giving you back control of your life and health, not blaming anyone.

### *CHANGING THE UNDERLYING CAUSES OF DIABETES.*

What if I slammed my thumb in my desk drawer every morning for a week? The first time it happened, it really hurt. The next day I do it again and my thumb is swollen and painful. By the end of the week, my thumb is blue and red, bloody and swollen and very painful. So I go to Doctor A, who tells me he is going to inject my thumb with anti-inflammatory drugs to reduce the swelling. I get a second opinion from Doctor B who tells me that she wants to give me pain medication to better tolerate the discomfort. I get a third opinion from Doctor C who wants to cut off the thumb because it looks defective. The real cure here is to stop slamming my thumb in the desk drawer.

You may ask: "What does this example have to do with me beating my diabetes?" Let's look at the case of Mrs. Jones whose diabetes is caused by obesity, sedentary lifestyle, not enough fiber and too much sugar and the wrong fats in her diet. All of these lifestyle factors team together to bring about insulin resistance, or Syndrome X. Mrs. Jones then develops Type 2 diabetes, which gives her fatigue, which furthers her junk food diet and sedentary lifestyle, which makes her diabetes worse, and on it goes. The hypoglycemic drugs that her doctors give her work briefly, then stop having any effect. The poor diet that Mrs. Jones is consuming is the "slamming the thumb in the desk drawer". Drs. A, B, and C are all working on a paradigm that they studied in medical school "if you can name it (the disease), then I can tame it (with drugs or surgery)". Medical approaches can be useful short term quick fixes to subdue symptoms, but do not address the crucial "slamming the thumb in the desk drawer". This book will.

### *DIABETES: SIMPLE BUT DEADLY IF UNCONTROLLED*

At first glance, diabetes appears to be such a simple disease. Too much sugar in the blood. But that simple error creates an avalanche of problems in the body that create havoc with the health of diabetics, especially if they have poor regulation of their blood glucose. Diabetes is such an insidious disease that it is the leading cause of blindness, kidney disease, amputations, and heart disease in the US.<sup>3</sup>

And yet, if properly regulated, diabetes can become a minor limitation in life, which is how baseball legends Jackie Robinson and Catfish Hunter viewed their diabetes. Diabetes did not seriously curtail the accomplishments of diabetics Ray Kroc, multi-billionaire and founder of the McDonald's empire; Hollywood celebrities Jack Benny, Mary Tyler Moore, and Ella Fitzgerald; U.S. Supreme Court Justice Oliver Wendell Holmes (who lived to age 94); and Ron Gillombardo, who at age 45 in 1992 in Barcelona became the oldest man in Olympic history to compete in powerlifting. Mr. Gillombardo told the press that, were it not for his diabetes and need to follow a strict diet, he could not have accomplished such an athletic feat at such an age.

Diabetes can become a wretched disease for those who ignore it, or an opportunity to make your life into a masterpiece for those who control it.

This book brings you a better understanding of this rampant disease, diabetes, and how to better control blood glucose levels using foods, supplements, and exercise. There is convincing evidence that you can improve quality and quantity of life and reduce complications for nearly all diabetics when using an aggressive nutrition program. Some Type 2 diabetics (non-insulin dependent) may actually have their disease go into complete remission by following the recommendations in this book. This book brings empowerment, therapeutic options, hope, wisdom, and a detailed game plan to you, the diabetic, to keep you out of harm's reach and filled with the zest of life.

### *INCIDENCE OF DIABETES IN US AND WORLD*

In 2003, the United States Centers for Disease Control and Prevention stated that "the incidence of diabetes has escalated to epidemic proportions." 18.2 million Americans now have diabetes, of which 13 million have been diagnosed and the remaining 5.2 million are "ticking time bombs" waiting for some health



calamity before recognizing the disease. Another 16 million have pre-diabetes, which dramatically elevates their risk for eventually deteriorating into full blown diabetes.<sup>4</sup> Undiagnosed diabetics may not receive treatment until something serious happens, like blindness, kidney failure, heart attack, or gangrene sets in. Experts now estimate annual US health care costs for diabetes at \$132 billion. Each year in America another 1.3 million cases of diabetes are diagnosed. 194 million people around the globe suffer from diabetes. While one-third of Americans overall will develop diabetes in their lifetime, African Americans are nearly twice as likely to develop diabetes compared to Anglos, and Latinos are even more prone toward diabetes than African Americans. All groups are at greater risk for developing diabetes as we age.

### *A LITTLE HISTORY ON DIABETES*

Around 1500 BC, medical scribes in both India and Egypt described a condition of great thirst and urination. They treated this condition with high fiber wheat grain, a valid therapy which can be scientifically explained today. Over 3000 years ago, a treatment recommended for diabetes in India involved intensive exercise. Another ancient and good idea. It was the Greek Aretaeus around 100 AD who first called the disease "diabetes" after the Greek word for "siphon", noting all the excessive urination that diabetics experience.<sup>5</sup> Some of the earlier "medical technicians" would diagnose and track the severity of the diabetes based upon how sweet the patient's urine smelled. The more sugar in the urine, the more uncontrolled the disease and the greater the likelihood of suffering severe complications in the eyes, kidney, heart, and nerves. Thomas Willis, physician to King Charles II of England in 1670 was torn between commenting on the obvious increase in diabetes among his wealthy patrons eating lots of sugar and the wealth being made in the sugar trade by his boss.

In 1898, Elliott Joslin, MD emphasized the importance of diet, exercise, and lifestyle to control diabetes. Dr. Joslin's work became the foundation for the world famous Joslin Diabetes Center in Boston. Canadian researchers Frederick Banting and Charles Best first isolated insulin in 1921. Two years later, researchers Banting and John Mcleod, who provided the laboratory, were awarded Nobel prizes for their work on insulin and diabetes. Demand for insulin was so high that a large pharmaceutical company, Eli Lilly, was required to meet the world's need for insulin. Since 1923, insulin research has brought various refinements, with the biggest breakthrough coming in 1978 when DNA engineering allowed researchers to manufacture human insulin, which has since become the gold standard for Type 1 insulin dependent diabetics.

In Joslin's era of 1898, the average life expectancy for a 10 year old diagnosed with Type 1 (insulin dependent) diabetes was 1.3 years beyond diagnosis. In the post-insulin era of 1945, that same 10 year old diabetic had a life expectancy of 45 years beyond diagnosis.<sup>6</sup> Even more progress has been made since then. But the experts all agree that the complications and life expectancy of the diabetic is directly related to how well blood glucose levels are regulated. This book will help greatly in that regulation.

### *CATEGORIES OF DIABETES*

Let's make sure that we have the proper terminology for diabetes:

- ♥ Diabetes insipidus: disease of high urine output, possibly caused by lack of the pituitary hormone, anti-diuretic hormone.
- ♥ Diabetes mellitus: (means "siphoning sweetness") metabolic disease of too much glucose in the blood as caused by:

- 1) Lack of insulin output, type 1 diabetes, juvenile diabetes, Insulin Dependent Diabetes Mellitus (IDDM)
- 2) Ineffective insulin, meaning there is enough insulin but it does not effectively force glucose into the cells, type 2 diabetes, adult onset diabetes, Non Insulin Dependent Diabetes Mellitus (NIDDM)

Other forms of diabetes mellitus that are somewhat rare include:

- Secondary diabetes, which may be caused by pancreatic diseases, hormone disturbances, drug reactions, or malnutrition.
- Gestational diabetes, which is glucose intolerance brought on during pregnancy.



Only about 5% of diabetics qualify as Type 1, which is caused by destruction of the insulin-producing cells of the pancreas (beta cells). Possible causes of the beta cell destruction include an auto-immune attack (the body's own immune system ganging up on the pancreas) triggered by a food allergy, especially from milk. Infants under 4 months of age who were fed cow's milk have a 50% greater risk of developing Type 1 diabetes than infants who are breastfed. When diabetes is in the family, cow's milk may need to be avoided in newborn infants.

The remaining 90%+ of all diabetics are Type 2, non insulin dependent. And 90% of these diabetics are overweight, which is a huge risk factor for diabetes. We will talk more about this later. While all diabetics can glean some valuable information from this book, the focus of this book is for Type 2 diabetics. All diabetics need to continue working with your physician while incorporating the recommendations from this book into your lifestyle.

### *CAN MY DOCTOR CURE DIABETES?*

No. Diabetes has become so common that Americans spend \$12 billion annually on research and \$132 billion on therapy. This monumental effort has allowed medical science to better manage the secondary diseases of diabetes. But slowing the consequences is very different from curing the disease. Routine medical therapy would consist of the following:

Type 1 diabetic. Intensified insulin therapy, which is designed to mimic the flow of insulin in a healthy human. 3-5 injections of human insulin (or flow from an attached pump) are spaced throughout the day in accordance with meals. Outcome with Type 1 diabetes is vastly superior than even a few decades ago. In Britain prior to the discovery of insulin (1922), there were 119 deaths from diabetes per million people. After the discovery of insulin (1931) there were 145 deaths from diabetes per million population. That's right, the death rate actually went up, because people increased the incidence of a self-destructive lifestyle and relied too heavily on the "magic bullet" insulin. Clearly, insulin helps to control the rampant complications from diabetes, but is far from a cure for the disease.

Type 2 diabetic. Use of oral hypoglycemic agents, including sulfa drugs like Diabinese, Glucotrol, Micronase, and Orinase. These drugs seem to enhance insulin production and the sensitivity of the body cells to insulin. However, they lose their effectiveness with time and, according to a huge study by the University Group Diabetes Program, elevate the risk for death from heart attack or stroke by 250%.<sup>7</sup> Other treatment drugs include metformin, the thiazolidinediones (TZDs), insulin, acarbose (blocks starch digestion), and orlistat (blocks fat digestion). All of these drugs have their considerable side effects, such as orlistat, which causes flatulence, oily stools, "rectal leakage", and malabsorption of the fat soluble vitamins A, D, E, and K.<sup>8</sup>

### *WHAT ARE THE COMPLICATIONS OF DIABETES?*

Remember, this is a loaded question. The statistics regarding diabetics in America are not very encouraging. However, the diseases that affect the diabetic are started and exaggerated by poor blood glucose control. You can minimize your risk for the following conditions. But be aware that ignoring your diabetes puts you in a high risk category for problems of the:

- ♥ Circulatory system, including heart disease, stroke, poor circulation to the feet and hands. 80% of Type 2 diabetics die from heart disease.
- ♥ Shriveling of the tiny blood vessels leading to problems in the eyes, a.k.a. retinopathy. 15 years after diagnosis, 90% of Type 1 and 80% of Type 2 diabetics show some damage to the retina of the eyes.
- ♥ Kidney complications, or nephropathy. The vast majority of American patients on renal dialysis are diabetics.
- ♥ Nerve damage, or neuropathy, leading to tingling, painful, "pins & needles" sensations in the hands and feet.
- ♥ Nerve damage to the bladder, intestines, sexual organs, etc. and the consequences of losing the contributions from those organs or regions of the body.
- ♥ Ulcers of the leg and foot, which are combined problems of nerves and blood vessels.



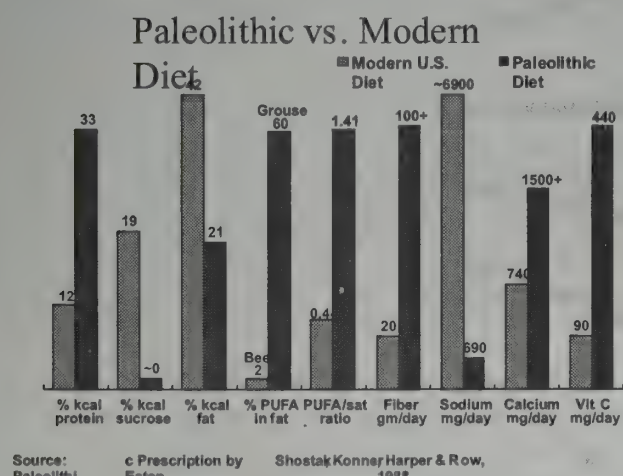
*WILL THIS PROGRAM IMPROVE MY TYPE 2 DIABETES?*

Yes. Since 90% of Type 2 diabetics are obese, weight reduction can dramatically improve blood glucose regulation and even cure the diabetes.<sup>9</sup> Obesity may distort the "landing sites" for insulin on the cell membrane, not unlike blowing up a balloon larger than normal and watching the writing on the balloon become distorted. There is reason to believe that many people can dramatically improve blood glucose regulation merely by eating a "hunter gatherer diet" consisting of lean and clean meat (chicken, turkey, fish, lean beef and pork) along with complex carbohydrates rich in soluble fiber (vegetables, nuts, seeds, fruit, legumes) and insoluble fiber (whole grains).

Researcher Dr. Kerin O'Dea in Australia wondered if the modern refined diet of many Aborigines living in Sidney, Australia could cause diabetes. She recruited 10 full blooded male aborigines who had Type 2 diabetes and asked them to return to the "hunter gatherer" diet of their ancestors. All 10 subjects were middle age and overweight. Seven weeks after beginning their ancestral diet, all 10 men had lost an average of 16 pounds in spite of making no effort to reduce weight, all had experienced a 50% drop in blood lipids (lowering their risk for heart disease), and all had such splendid improvement in fasting blood glucose levels that they were considered "cured" of Type 2 diabetes.<sup>10</sup>

Max Gerson, MD was a well-respected German neurosurgeon in the 1920s. He began treating "refractory" diseases of all sorts, including diabetes, lupus, and cancer with a basic program of nutrition and detoxification. Dr. Gerson used his simple program to cure the wife of the famous medical missionary, Dr. Albert Schweitzer, from advanced tuberculosis in 1928, and then cured Schweitzer himself of Type 2 diabetes, allowing Schweitzer to live another 15 years to age 90.<sup>11</sup>

This book will also help at-risk people who want to prevent diabetes. Diabetes is becoming a great concern to the state and federal government because health care costs from Medicare and Medicaid have skyrocketed due to rampant diabetes. The National Institutes of Health sponsored a study, the Diabetes Prevention Program, which showed that little efforts can make a huge difference in diabetes risk. As little as a 5-7% weight loss coupled with small changes in the diet and 30 minutes daily of exercise was able to cut the risk for developing diabetes by 50% in high risk individuals.

*BLOOD SUGAR, FOOD SUGAR, AND THE DISEASES OF CIVILIZATION*

In the 1930s, a dentist Weston Price, and his wife/nurse, decided to quit their practices and travel the world in the ultimate "Indiana Jones" scientific study and adventure. Travelling on propeller planes to 12 cultures on 5 continents, they found that people who consumed their ancestral diet had both good teeth and generally good health. Once these people adopted the "western diet" (Read: refined carbohydrates lacking in fiber) then both the teeth and general health of these varied cultures began to rapidly deteriorate.<sup>12</sup> Diabetes was virtually never seen in people who followed their native ethnic diet.

Drs. Shostak, Eaton, and Konner of Emory University studied the lifestyle of the few remaining

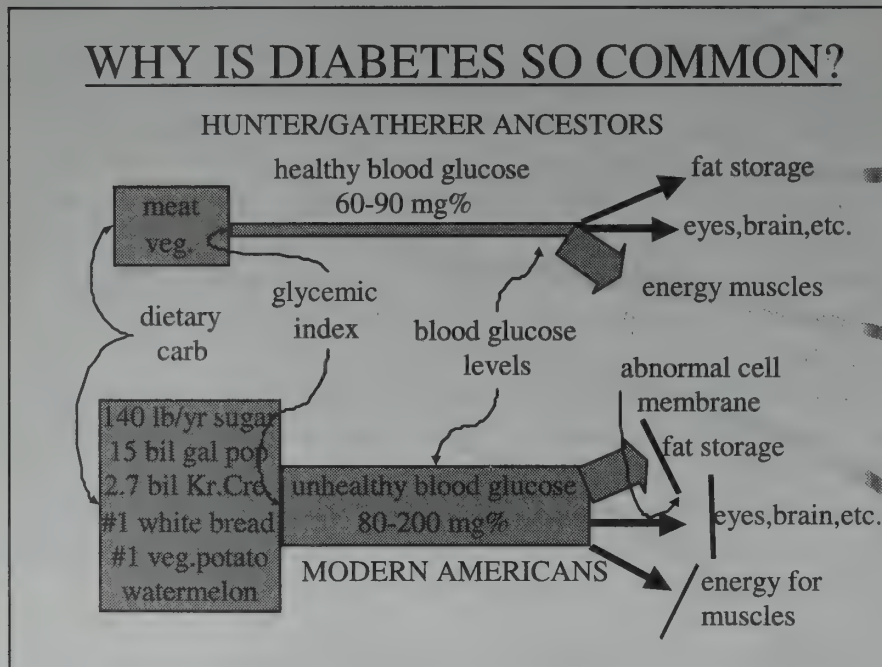
"hunter gatherer" cultures around the world and compared their diet to ours, then published this research in the prestigious New England Journal of Medicine and as a book, *THE PALEOLITHIC PRESCRIPTION*. There is a huge gap between what we modern Americans are currently eating and what our bodies are designed to require.<sup>13</sup> Note the following chart which shows that we Americans get 19% of our calories from simple carbohydrates, mostly white sugar. Our ancestors got almost no calories from simple carbohydrates, except for the brief harvest time for fruits in the summer and fall. The glycemic index of real fruit usually is much better than the glycemic index of refined sugars. Glycemic index basically tells us how fast the sugar gets into our bloodstream. More on the importance of the glycemic index later.



*TIME RELEASE FOOD SUPPLY*

For thousands of years, our ancestors ate foods that slowly released their calories in the process of digestion, to be eventually absorbed into the bloodstream and easily handled by a meager supply of insulin. However, modern Americans have ignored this biological adaptation of our bodies and consume huge amounts of refined carbohydrates to bring about a rush of easily absorbed sugars into the bloodstream.

Fiber in whole foods slows down the absorption of sugar into the bloodstream so that blood glucose stays at a manageable level. With the 140 pounds per year of refined white sugar consumed annually by the average American, and the fact that the most commonly eaten food in America is white bread, we now literally inject sugars into our bloodstream. This is one of the main reasons for the epidemic proportions of diabetes in America.



Diabetes is one of the more prevalent, lethal, expensive, and easily reversed conditions in America. The vast majority of diabetes is caused by ignoring the basic laws of Nature. Humans need "time release" foods that slowly allow small amounts of carbohydrates to be absorbed into the bloodstream. We are built for activity and get sick when we overeat or develop obesity. 95% of all sugar in the blood is supposed to be burned by the muscles, yet sedentary Americans end up having that sugar linger in the blood until the insulin supply can force the sugar either into storage as glycogen or storage as fat. We have a nutritional need for a wide assortment of nutrients involved in burning sugar in our

cell furnaces, not unlike needing spark plugs in your car to burn the gasoline in your engine. These "spark plugs" that are deficient in our Standard American Diet (SAD) include magnesium, chromium, vanadium, and omega-3 fats from fish and flax oils.

Most of our hunter-gatherer ancestors ate a diet consisting of about 1/3 lean animal tissue with the remaining 2/3 of the diet unprocessed plant food; mostly vegetables, some grains, some fruit, nuts, seeds and legumes. If the creature runs, flies, or swims, then it may be about 4% body fat, with obvious exceptions including duck and salmon. Cows, the staple meat of America, do not run, swim, or fly and are about 30-40% body fat after they have been fattened at the feedlot with hormones, corn meal and the inability to move. The basic diet of our ancestors that will help you control your diabetes is lean and clean protein foods along with complex carbohydrates in their natural state.

Keep in mind that you may have to "fine tune" this paleolithic diet to suit your ethnic background. The macrobiotic diet was developed by a Japanese physician who cured himself of cancer in the 19th century. The macrobiotic diet tends to encourage anything Oriental, even soy sauce and pickles, and discourage anything Western, including chicken, turkey, fish and fruit. Macrobiotics may be ideally suited for many Orientals, and has helped some Caucasians because it is such a vast improvement over the nutritional quality of the typical American diet. I encourage people to determine the diet of their ancestors 1000 years ago and use that food pattern as a starting point.

*WHAT ARE THE "ROOTS" OF DIABETES?*

Anthropologists (scientists who study the origins of humans) tell us that humans were originally "hunters and gatherers". Then came the Ice Age, in which vast regions of the earth were covered with ice and the remaining parts of the earth were much colder than normal. This Ice Age, obviously, was not conducive to farming and the availability of lots of plant food. So most of our ancestors, until about 25,000



years ago when the ice began receding to its current position, were meat eaters. Meanwhile, glucose, which only comes from plant food, is the most essential fuel in the human body. The brain, lens of the eye, lungs, and kidneys must have glucose to operate properly. The brain is so dependent on glucose that it does not even need insulin to get glucose into the cells, which is unusual, since nearly all other body cells require insulin and the Glucose Tolerance Factor (GTF) to enable glucose to slip in through the cell membrane.

Back to our ancient ancestors. They consumed very little carbohydrates, and what little they consumed had to be quickly shuttled to the cells for fuel, lest the glucose linger in the bloodstream and cause some damage. People who did not eat much plant food, such as those groups from the colder climates in northern Europe, developed an ability to make glucose from the proteins in our diet (called gluconeogenesis). As you will see in upcoming chapters, glucose is sort of a necessary evil for body cells. If just the right amount of glucose goes straight from the intestinal absorption to the body cells and is burned for fuel, then the person feels great and lives a long and healthy life. If too little glucose is available, then the person feels cranky, depressed, forgetful and listless in the condition called hypoglycemia (low sugar levels in the blood). If an excess of glucose starts accumulating outside of the cell, then "glucotoxicity" begins. Glucotoxicity is a slow but lethal process whereby too much glucose outside of the cells triggers a host of destructive pathways throughout the body.

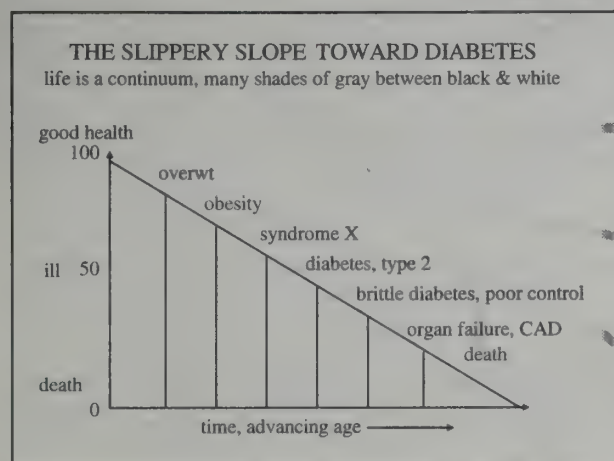
Once farming began, around 8000 years ago in the Middle East, then our ancestors found the ability to settle down, start cities, and begin the processes of civilization. Then, around 1600 AD, came the refining of wheat in northern Europe. This new technique allowed the wheat miller to strip the outer bran and inner germ from the whole wheat kernel for a fine "Queen's white" flour. Around 1700 AD, trade ships would run the triangle of taking African slaves to the Carribean, where the ships would pick up cane sugar, molasses, and rum from the southern plantations and bring these products to Europe. Once refined cane sugar was brought to the masses, the health of millions began to deteriorate rapidly. Enter the dawning of the "diseases of civilization", especially diabetes.

Based upon hundreds of scientific studies, Type 2 diabetes is well recognized as a disease that is a consequence of our modern lifestyle:

- ♥ obesity
- ♥ too much refined carbohydrates with too little fiber to slow down the absorption of the sugar
- ♥ sedentary lifestyle
- ♥ too little minerals (like chromium, magnesium, and vanadium) in our diet due to the negligence of agribusiness
- ♥ too much fat and the wrong kind of fat in our diet which leads to changes in cell membranes that no longer recognize the role of insulin.

You will learn more about all of these lifestyle factors later. Basically, the bad news is that diabetes is at epidemic proportions in America and getting worse. The good news is that diabetes is lifestyle induced and lifestyle controlled. How much diabetes will influence your quality and quantity of life will largely depend on you. You are to be congratulated for purchasing this book. You will reap a thousand fold benefits when you begin to implement these recommendations in your daily living.

### THE SLIPPERY SLOPE TOWARD DIABETES



As in most areas of life, there are many shades of gray in between optimal health and the end stage brittle diabetic at risk for losing a limb. Diabetes usually creeps up on people, not unlike heart disease and cancer, and can take years or decades to mushroom into a serious problem. That is why it is important to change the underlying causes of the disease while it is still in its early stages.

In the beginning, "Fred" or "Sarah" start out as reasonably healthy teenagers. They get married, start a career, and have children. Life gets complicated and hectic. There is less time for exercise, like the tennis and golf they



used to play together; and more reasons to sit on the couch and snack while watching TV—"vegging out", as we call our American past time.

Sarah and Fred start adding a few pounds to the waistline each year. Overweight gradually turns into obesity, which gradually fades into syndrome X (insulin resistance), which eventually turns into diabetes, which can erode into many health problems.

By age 60, both Fred and Sarah are battling a variety of health problems, including kidney failure, heart disease, Fred's erectile dysfunction, Sarah's poor wound healing, and failing vision. Energy and zest for living are a thing of the past.

It is these people and the 23 million more Americans like them that this book is written for. As long as you have a pulse, there is hope for reversing diabetes. The sooner you start and the earlier the stage of your disease, the more likely you are to get dramatic results with this program.

#### *PATIENT PROFILE*

D.M. was a colleague of mine at work who had developed fatigue, frequency of urination, and thirst all of which just didn't seem right. At age 44 and overweight, her doctor diagnosed diabetes. D.M. has just joined the 23 million Americans with diabetes, a disease that has been relatively rare until this century. She ignored her diabetes for a year before she came to me for help. She started a diet that is outlined in this book, with particular emphasis on the superfoods. She began taking nutrition supplements, including chromium and the herb *Gymnema*. Within 2 months on this program, she called me one Saturday morning to tell me how much more alive she felt and how her cuts and scratches were healing much quicker.

#### ENDNOTES

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## CHAPTER 2

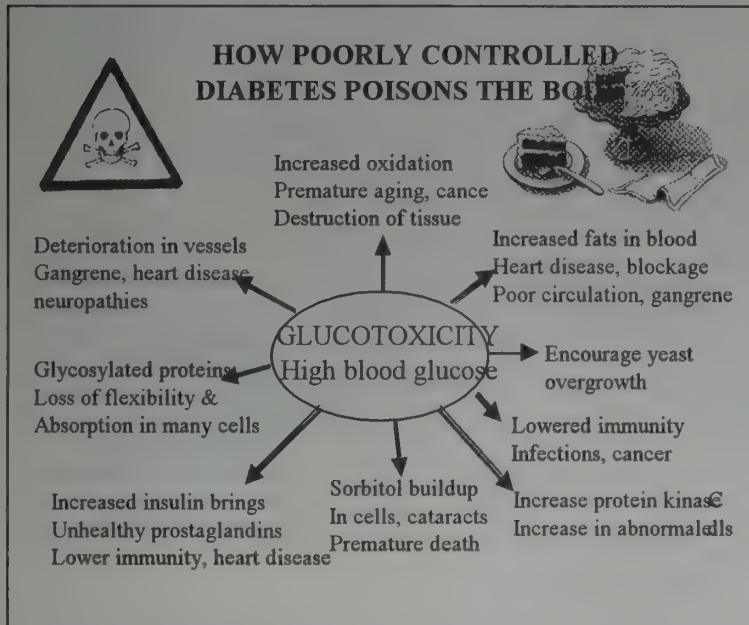


# -KILLING US SWEETLY- EXCESS SUGAR AS A WRECKING BALL IN THE BODY

"If you find honey, eat just enough--too much of it, and you will vomit." Proverbs 25:16

Ever marvel at the beauty of a hummingbird in flight? Hummingbirds, sometimes called "flower kissers", flap their wings faster than the eye can see, making their wings look like a blur. Hummingbirds spend all day every day of their short life seeking out sugar. They sip the nectar from flowers and even suck

sugar water from your hummingbird feeder if you set one out. No need to worry about killing hummingbirds with too much sugar in their diet, because they are using sugar for its intended purpose: immediate energy for major muscle exertion. Americans are eating and drinking as if they were hummingbirds, in need of an immediate rush of energy from sugar for muscles. But instead we sit at our desks, or in front of the TV, or in a car or airplane seat. It is this great disparity in sugar intake for immediate energy needs, with little muscle movement that generates one of the greatest killers in the history of humanity: glucotoxicity. When excess glucose builds up in the bloodstream, there is an avalanche of dastardly effects that begin to occur.

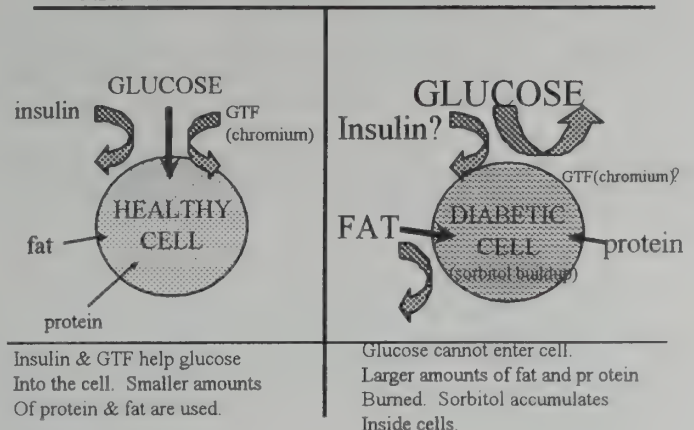


but to convince you of the urgency in controlling your blood glucose. Over 5 million of the 18.2 million Americans with diabetes don't know or don't care about the disease. Many diabetics will ignore doctor and nutritionist recommendations because these lifestyle changes seem inconvenient. While high blood sugar does not hurt anyone in the beginning, it initiates an avalanche of biological problems that cannot be stopped by any drug or nutrient.

While we have known for centuries that poorly controlled diabetes leads to many complications, it was not until recently that scientists could explain how excess glucose poisons the system. Excess blood glucose accumulates outside of the cell. The free glucose begins to attach to various blood proteins in the process of glycosylation...essentially "tanning" these cell membranes (just like tanning cowhide into leather makes it tougher and less flexible) and various proteins to reduce their flexibility and absorption properties. Meanwhile the cell inside is starving for fuel. So the cell begins to burn fat, but rather

inefficiently, leading to higher blood fats circulating through the 60,000 miles of blood vessels. The residue particles of incomplete combustion of fats are called ketone bodies and leave the diabetic with breath like an alcoholic, some confusion, and often a sense of "who cares" about this condition.

### DIFFERENCES in ENERGY METABOLISM BETWEEN NORMAL & DIABETIC CELLS





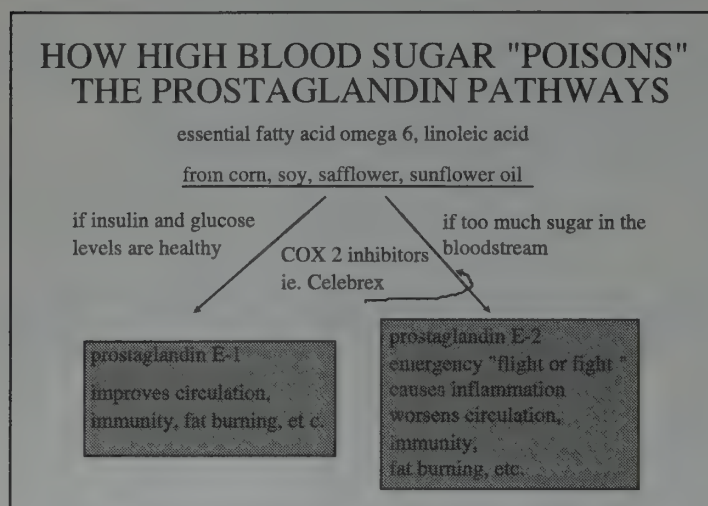
Excess sugar in the blood begins a rapid acceleration of the oxidation, or wearing out, of all cells. This oxidation increases the aging process, rusting the nerves to bring neuropathies (or tingling and painful

nerves), shriveling the blood vessels in the eyes for possible blindness, starving the kidneys for possible renal failure, and shutting down circulation to the distant extremities for possible gangrene. Excess blood glucose lets a monster out of the bag: protein kinase C, which generates too much cell division, possibly leading to cancer.

It has been well documented that cancer is a "sugar feeder", or an obligate glucose utilizer.<sup>1</sup> There is a direct relationship between countries that eat the most sugar and the incidence of breast cancer. Also, insulin is a powerful growth (anabolic) hormone which can accelerate cancer spread.<sup>2</sup> When the diabetic cannot use or even store the excess blood

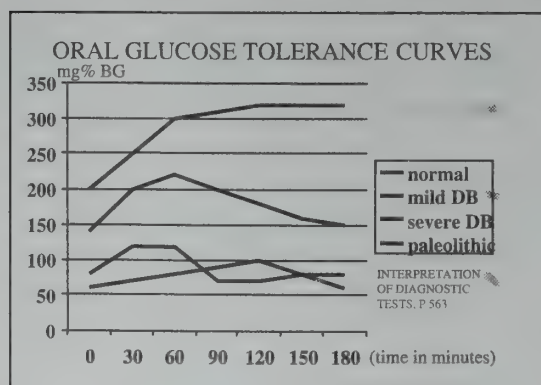
sugar, opportunistic yeast living in all of us can readily start growing on the sugar and leave the diabetic with a systemic yeast infection, which starts another cascade of health problems.

Excess insulin from insulin resistance, Type 2 diabetes, then starts another cascade of events by switching a "Y" fork in metabolism to make more unfriendly prostaglandin PGE-2, which causes constriction of blood vessels, lowering immunity, increasing the stickiness of all cells (greater risk for heart disease, stroke, and the spreading of cancer), and more. A new category of prescription drugs, called COX-2 inhibitors (stands for Cyclo-Oxygenase inhibitors) helps to relieve inflammation caused by too much sugar in the bloodstream forcing the body to make nasty prostaglandins from our excessive intake of omega 6 oils from soy, corn, etc. All these problems stem from something as simple as too much sugar in the blood, or what scientists now call "glucotoxicity".<sup>3</sup>



### HOW IS BLOOD GLUCOSE MEASURED?

In order to be diagnosed with diabetes, most clinicians will rely on the fasting plasma glucose (FPG)



or the oral glucose tolerance test (OGTT). The FPG requires an 8 hour fast, after which blood is drawn and tested for glucose. The OGTT requires a 12 hour fast after which a blood sample is drawn, then a glass of sweet fluid (glucose solution) is consumed by the patient. Blood samples are drawn every 30-60 minutes for the next 3-6 hours. While the FPG is easier and cheaper to perform, the OGTT provides a more accurate picture of the body's ability to handle blood glucose.

Essentially, the diabetic is trying to take the "highs and lows" out of the swings in blood glucose. This is easier said than done. But the foods and supplements discussed later can help to regulate blood glucose.

EVALUATING BLOOD GLUCOSE LEVELS		
considered to be:	Fasting Plasma Glucose FPG	Oral Glucose Tolerance Test
NORMAL	less than 110 mg/dl	less than 140 mg/dl
PREDIABETES	110-125 mg/dl	140-199 mg/dl
DIABETES	126 or higher	200 or higher

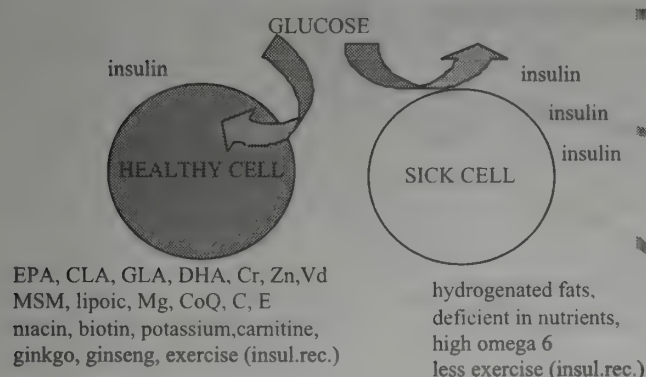


### INSULIN RESISTANCE

In 1988, a well respected physician researcher, Dr. Gerald Reaven, of Stanford University Medical Center published his findings on this growing problem of insulin resistance, or Syndrome X.<sup>4</sup> Essentially, a large and growing percentage (25% by Reaven's estimate) of the "healthy" non-obese non-diabetic population in the US are suffering from insulin resistance, which means that the body makes enough insulin, but the insulin cannot seem to "open the door" of the cell membrane to allow glucose to enter the cell. Insulin resistance is a leading cause of Type 2 diabetes, along with rises in hypertension (some 50 million Americans have high blood pressure), and heart disease (still the leading cause of death in the US).

The cell membrane receptor for insulin could be compared to the uniqueness of a fingerprint. This receptor is a 3 dimensional site on the cell membrane that must be in proper working order for insulin to do its job. Realize that the average healthy non-diabetic individual secretes around 31 units of insulin daily, while the Type 2 obese diabetic secretes 114 units daily!!! This is nearly 4 times the normal amount. Lean Type 2 diabetics, which are rare, secrete 14 units of insulin daily and Type 1 insulin dependent diabetics make an average of 4 units of insulin each day.<sup>5</sup>

#### THE GATEKEEPER cell membrane dynamics:



The reason that too much insulin is made and still doesn't do the job is the improper structure from the wrong building materials for the insulin receptors on the cell membrane. This "gatekeeper" of the cell is composed of a fatty (lipid) layer of very specific fats. But Americans feed themselves the wrong kind of fats (hydrogenated, saturated) which become incorporated into the cell membrane and not enough of the right kinds of fats (EPA and DHA from fish, ALA from flax, GLA from borage and primrose, CLA from range fed animals) along with deficiencies of minerals like magnesium, sulfur, chromium, and vanadium that assist in this crucial insulin receptor site on the cell membrane. More on this subject, including how to fix the problem, when we get to

the chapters on superfoods, nutritious & delicious, and nutritional supplements.

### DIABETES: A PROBLEM OF HANDLING DIETARY CARBOHYDRATES

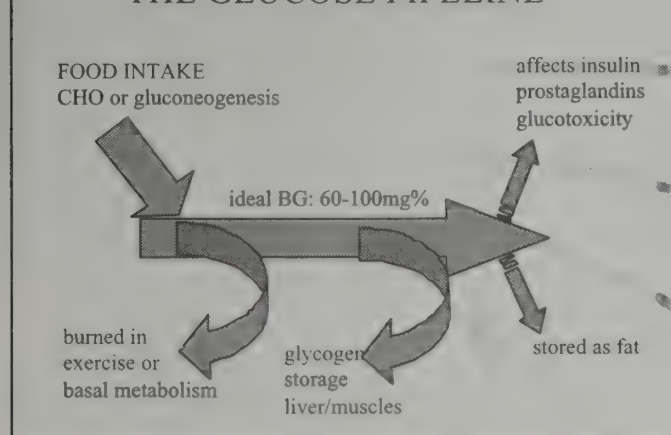
Essentially, diabetics have a problem dealing with dietary carbohydrates, which come from bread, potatoes, sweets, and more. So why does the American Diabetes Association tell diabetics to eat more carbohydrates? And why do they not distinguish between fast acting (high glycemic index) and slow acting carbohydrates? This is why the incidence of diabetes is climbing and many people with diabetes find little relief in their physician's ADA approved diet.

Diana Schwarzbein, MD is a noted physician and board certified endocrinologist who found that offering the high carb diet for diabetics that she was taught in her residency only made the diabetic's

symptoms worse. However, when the light switched on in her brain that diabetes is a condition in which people do not handle carbs well, she began offering her patients a "paleolithic diet" which is higher in meat and vegetables and lower in grains and sugars and found major improvements in their ability to control blood glucose.<sup>6</sup>

At age 12 in 1946 Richard Bernstein developed type 1 diabetes. His condition worsened, in spite of being treated by the physician who was then head of the American Diabetes Association. Richard started experimenting with a low carbohydrate diet and found that his symptoms improved dramatically. He tried to convince his doctor of the merits of this diet, to no avail.

#### THE GLUCOSE PIPELINE





No one would listen to him. So he went back to medical school while in his 40s and is now a board certified endocrinologist whose diabetes is a minimal inconvenience to his life and helps to instruct patients through his clinical practice and his book on the merits of a low carbohydrate diet for diabetics.<sup>7</sup>

The basics of controlling diabetes is to eat very few quick acting carbs, eat less carbs all together, make the cells more receptive to absorbing insulin and glucose via the right fats and micronutrients, and exercise more to burn off the sugar in the bloodstream. Its all about regulating the "glucose pipeline", which is the constant stream of carbs from the diet into the blood that diabetics do not properly manage. Old joke: Patient walks into a doctor's office and says (while lifting his arm above his head) "Doctor, everytime I do this its hurts." "Then don't do that" says the brilliant doctor. Diabetics have problems metabolizing dietary carbs. Then don't do that.

#### *PATIENT PROFILE*

S.R. was a retired widow looking forward to travel and enjoying her grandkids when the doctor diagnosed her with Type 2 diabetes. She came to me with a determination to enjoy her golden years and do whatever it takes to beat her diabetes. I suggested a flax oil salad dressing to replace her favorite blue cheese dressing. She joined the local YWCA and became an enthusiast of calisthenics in the swimming pool. With the addition of brewer's yeast and other nutrition supplements, she was able to discontinue her medication and spent the next 5 years in vigorous pursuit of exotic travel and her grandkids. For S.R., the diagnosis of "diabetes" was merely a wakeup call to get started on her long overdue fitness program, which gave her more energy than she had had in decades.

#### *ENDNOTES*

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## CHAPTER 3



### **-GLYCEMIC INDEX- HOW QUICKLY DOES THE FOOD SUGAR GET INTO THE BLOODSTREAM?**

"Almost every second store and shop in our villages and cities is a candy store, and common sense and common observation knows well enough the morbid results. How many patients have blessed me for the suggestion to stop all sweets and have traced to the continued rules their reinstated health and enjoyment of life." Dr. George M. Gould, physician in 1910.

Humans are not built to withstand the rigors of many aspects of modern life. We are going deaf at an alarming rate due to noise pollution and prematurely hardened arteries in the ear region. Our ancestors had reasonably good hearing throughout their productive lives. In primitive societies, people in their 70s have hearing better than many of our teenagers in America, due to avoidance of noise pollution. Most citizens of sunny Australia are fair skinned people from northern Europe. Hence, Australia is the world's capital for skin cancer due to the fact that fair skinned people are not genetically prepared for all that sunshine.

The same thing is happening with respect to sugar, refined carbohydrates, and fiber- depleted foods in America. Our bodies are not built to withstand the constant flood of simple sugars entering our bloodstream. If we were active and burning up the sugar in work, then the sugar would be of less consequence. But we sip and munch on sweet foods all day long while sitting at our desks or in front of the TV, then wonder why morbid obesity has increased by 300% since the introduction of aspartame, the artificial sweetener.

Earlier nutritionists simply said, "Stop eating all sweet food!" to their diabetic patients. This is easier said than done, when many diabetics have become "sugar addicts". A more exacting scientific approach to the role of dietary carbohydrates in blood glucose levels was developed in 1981 by Dr. David Jenkins. While some health care professionals consider the glycemic index the "gold standard" in guiding diabetic patients, I consider it one of many guidelines that are important. For example, spaghetti and Uncle Ben's white rice, which are highly refined foods, appear to have a more favorable glycemic index (GI) than buckwheat groats or beets, which are whole foods. Yet buckwheat is rich in magnesium, fiber, vitamin E and other nutrients found in whole grains. Beets are a treasure trove of phytochemicals, or chemicals in plants that protect us from various diseases and premature aging. Meanwhile, white flour spaghetti noodles and white rice have had at least 24 nutrients removed and 4 added back. This nutritional robbery occurs daily in the American food supply and needs to be taken into consideration when using the GI to make dietary recommendations.

Another issue is that GI may seem to favor white sugar, or sucrose, over whole grain bread. Yet, when an equal amount of calories from either sucrose or wheat starch were fed to animals, the sucrose diet yielded more than a 50% increase in the number of tumors.<sup>1</sup> In other words, refined simple carbohydrates need to be seriously limited, even if we cannot explain that limitation based on glycemic index alone.

With that caveat in mind, let's explain how the GI was developed and what it means to you, the diabetic reader. Human subjects, both healthy and diabetic, are fed 50 grams of carbohydrates from various foods. For instance, people are fed 200 grams of spaghetti in order to get 50 grams of carbohydrates, because spaghetti also contains some protein, fat, water, and fiber. Researchers then compare the size of the Oral Glucose Tolerance Test curve. If a food creates only half the rise in blood glucose compared to consuming a pure glucose drink, then the food gets a GI rating of 50, and so on.

The more that you process a food, the higher the GI becomes. Cooked whole wheat bread have a GI of 41, white bread has a GI of 70. The more the food is stripped of its fiber and ground into smaller particles, the higher the GI and the worse that food becomes for the diabetic.



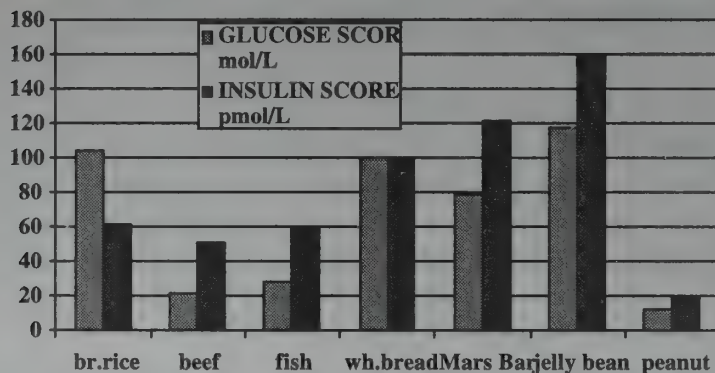
You might say that ice cream has a better GI than whole wheat bread, so eat more ice cream?? Actually, the sugar and fat in ice cream are likely to make the diabetic risks for heart disease even more prominent. Use this glycemic index table<sup>2</sup> as it was meant to be used: As a guideline to help people make the right food choices, not as the only nutrition tool for good judgment at the dinner table.

### INSULIN SCORE AND GLUCOSE SCORE

Not everyone is enthused about the accuracy of the glycemic index table. While the GI is a valuable indicator of the impact a carbohydrate food will have on the blood glucose, GI does not give us a complete

#### HOW FOODS AFFECT OUR BLOOD GLUCOSE & INSULIN

compare 2 hr postprandial insulin & glucose levels of 1000 kJoule (240 kcal) food samples fed to healthy subjects; all compared to white bread=100, AUC



Holt, S, *Am.J.Clin.Nutr.*, vol.66, p.1264, 1997

picture of the impact a food has on blood glucose and insulin levels. Hence, other researchers are trying to create more complete ways of assessing foods, such as glucose score and insulin score. One study published in the *American Journal of Clinical Nutrition* found some rather surprising results when feeding foods to healthy human volunteers. All scores are compared to white bread, which serves as the standard of 100 for both glucose and insulin score. For instance, jelly beans should have a relatively low glycemic index, based upon the sugar and gelatin in the product. But these researchers found that jelly beans and Mars Bars have a very negative impact on raising blood glucose and insulin levels. Fish and beef both triggered a higher insulin score than what

would have been expected based upon their glycemic index, which is near zero. The final chapter has yet to be written regarding the complex and elegant impact that a food or combination of foods has on the blood glucose and insulin level.

### PATIENT PROFILE

T.B. was a very successful businessman who was told that he was diabetic on his 50th birthday. He took the usual approach, "Get me an expert on this subject!! I've got good insurance." He took his medication, but ignored my advice regarding diet and supplements and generally did not take good care of himself. He died 3 years later of a heart attack

### ENDNOTES

<sup>1</sup> . Hoehn, SK, et al., *Nutrition and Cancer*, vol.1, no.3, p.27, 1983

<sup>2</sup> . Brand-Miller, J., et al., *THE GLUCOSE REVOLUTION*, Marlowe, NYC, 1999



**GLYCEMIC INDEX:**

how fast does the carbohydrate food get into the blood compared to glucose (=100); **ACTION PLAN:** eat foods at or below the "50 yard line"

	bread/grain	vegetables	fruit	legumes	dairy	beverages	snack food
<b>90-100</b>		parsnip, baked white potato	dried dates (103)				glucose, maltose (105)
<b>80-89</b>	corn flakes, crispbread,	red skinned potato					
<b>70-79</b>	raisin bran, vanilla wafers, graham crackers, waffles, white & wheat bread, bagel, cocoa krispies	french fries, pumpkin	watermelon	broad beans		Gatorade	corn chips, Life Savers, Skittles Fruit Chews,
<b>60-69</b>	taco shells, shredded wheat, arrowroot cookies, shortbread,	beets, new potatoes	cantaloupe, pineapple, raisins		ice cream	soft drink syrup, Fanta	sucrose (white sugar), Mars almond bar,
<b>50-59</b>	all bran, stone ground whole wheat, buckwheat, brown & white rice, blueberry muffin, pita & sourdough bread,	sweet corn, sweet potato, yam	banana, kiwi, mango, papaya				Power bar, potato chips, honey, popcorn
<b>40-49</b>	noodles, sponge cake, spaghetti, oatmeal, banana bread,	carrots, green peas,	grapes, orange	baked beans		orange juice, apple juice	chocolate, Twix Cookie Snickers, lactose
<b>30-39</b>	fettuccine, ravioli		apple, apricot, pear, plum	butter beans, chick peas (garbanzo), lentils, navy beans	low fat yogurt, skim milk, chocolate		
<b>20-29</b>			cherries, grapefruit	kidney beans	whole milk		fructose
<b>10-19</b>				soybeans			peanuts



## CHAPTER 4



### -MALNUTRITION IN AMERICA- NUTRITION SURVIVAL FACTS

"Our way of life is related to our way of death."

-The Framingham study, Harvard University

Most Americans know more facts about their favorite baseball team than basic facts on nutrition. Most Americans "live to eat", but fail to realize that all forms of life on earth must "eat to live". Understanding some basics about nutrition and the nutritionally bankrupt food that permeates our American diet is crucial for you, the diabetic reader, to start a healthier lifestyle.

Howard Hughes, the multi-billionaire, died of malnutrition. It is hard to believe that there can be malnutrition in this agriculturally abundant nation of ours--but there is. At the time of the Revolutionary War, 96% of Americans farmed while only 4% worked at other trades. Tractors and harvesting combines became

#### Malnutrition in typical "healthy" American

average annual consumption of low nutrient foods:

756 doughnuts  
60 pounds cakes & cookies  
23 gallons ice cream  
7 pounds potato chips  
22 pounds candy  
200 sticks gum  
365 servings soda pop  
90 pounds fat  
134 pounds refined sugar



part of an agricultural revolution that allowed the 2% of Americans who now farm to feed the rest of us. We grow enough food in this country to feed ourselves, to make half of us overweight, to throw away enough food to feed 50 million people daily, to ship food overseas as a major export, and to store enough food in government surplus bins to feed Americans for a year if all farmers quit today. With so much food available, how can Americans be malnourished? The answer is: poor food choices. Americans chose their food based upon taste, cost, convenience and psychological gratification--thus ignoring the main reason that we eat, which is to provide our body cells with the raw materials to grow,

repair and fuel our bodies. The most commonly eaten foods in America are white bread, coffee and hot dogs. Based upon our food abundance, Americans could be the best nourished nation on record. But we are far from it.

#### CAUSES OF NUTRIENT DEFICIENCIES

- ⇒ Don't eat it.
- ⇒ Don't absorb it.
- ⇒ Don't keep it. Increased excretion or loss of nutrients can be due to diarrhea, vomiting or drug interactions.
- ⇒ Don't get enough. Increased nutrient requirements can be due to fever, disease (like diabetes), alcohol or drug interactions.



Are you confused about why we Americans spend \$1.5 trillion per year on medical care, more than

#### MOST POPULAR GROCERY ITEMS IN AMERICA

1. Marlboro cigarettes
2. Coke Classic
3. Pepsi Cola
4. Kraft processed cheese
5. Diet Coke
6. Campbell's soup
7. Budweiser beer
8. Tide detergent
9. Folger's coffee
10. Winston cigarettes

from "1992 Top Ten Almanac"  
by Michael Robbins



any other nation in history, and another \$20 billion at the National Institutes of Health for health research (mostly drug development) and then somehow have twice the incidence of diabetes compared to ten years ago? You might be surprised at what sells best in American grocery stores.

Overwhelming evidence from both government and independent scientific surveys shows that 92% of Americans do not get the Recommended Dietary Allowance for all essential nutrients. Specifically, we are low in our intake of:<sup>1</sup>

**VITAMINS:** A, D, E, C, B-6, riboflavin, folacin, pantothenate

**MINERALS:** calcium, potassium, magnesium, zinc, iron, chromium, selenium; and possibly molybdenum and vanadium.

**MACRONUTRIENTS:** fiber, complex carbohydrates, plant protein, special fatty acids (EPA, GLA, ALA, CLA), clean water

Meanwhile, we also eat alarmingly high amounts of: fat, salt, sugar, cholesterol, alcohol, caffeine, food additives and toxins.

This combination of too much of the wrong things along with not enough of the right things has created epidemic proportions of degenerative diseases in this country, including diabetes. The Surgeon General, Department of Health and Human Services, Centers for Disease Control and Prevention, National Academy of Sciences, American Medical Association, American Dietetic Association, and most other major public health agencies agree that diet is a major contributor to our most common health problems. Even the conservative report from the Surgeon General states: "Some estimates suggest that new cases of diabetes could be reduced by nearly half by preventing obesity in middle-aged adults."<sup>2</sup>

The typical diet of the diabetic patient is high in fat while being low in fiber and vegetables--"meat, potatoes, and gravy" is what many of my patients lived on. Data collected by the United States Department of Agriculture from over 11,000 Americans showed that on any given day:

- ♥ 41 percent did not eat any fruit
- ♥ 82 percent did not eat cruciferous vegetables
- ♥ 72 percent did not eat vitamin C-rich fruits or vegetables
- ♥ 80 percent did not eat vitamin A-rich fruits or vegetables
- ♥ 84 percent did not eat high fiber grain food, like bread or cereal<sup>3</sup>

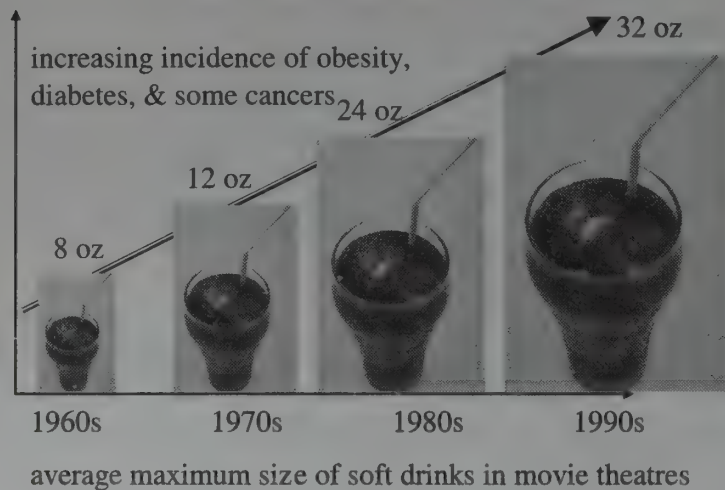
The human body is incredibly resilient, which sometimes works to our disadvantage. No one dies on the first cigarette inhaled, or the first drunken evening, or the first decade of unhealthy eating. We misconstrue the fact that we survived this ordeal to mean we can do it forever. Not so. Malnutrition can be blatant, as the starving babies in third world countries. Malnutrition can also be much more subtle.

**MACRONUTRIENTS:** We eat protein, carbohydrates, and fats in large quantities, hence they are sometimes referred to as macronutrients (meaning "big" nutrients). Ever notice how our incidence of diabetes, waistlines and bus seats are expanding along with our expected rations of soft drinks at the movie theatre?



### AMERICANS DRINKING LIKE HUMMINGBIRDS?

365 soft drinks (12 oz)/person/yr = 15 bil gallons/yr  
1/3 teen boys drink at least 3 cans/day



We also eat fiber, which is indigestible parts of plant foods. Since fiber is indigestible and therefore cannot enter the bloodstream, scientists assumed back in the 1950s that fiber was useless and stripping it from the food supply was totally acceptable. Bad idea. Logic would assume that something found in our food supply for thousands of years must have a purpose. Yet, it was not until the 1970s that a British physician, Dennis Burkitt, working in Africa noticed an entirely different set of diseases among Africans who ate a high fiber diet compared to Europeans and Americans who eat a highly refined low-fiber diet.

Fiber may be one of the more important elements in your diabetes recovery program. Fiber binds up toxins

and fat in the intestines, carrying them out with the feces. Fiber slows down the absorption of carbohydrates and improves the glycemic index of foods. Soluble fiber, such as found in many vegetables, oat bran, sea vegetables, legumes, and other foods will be outlined in the "superfoods" section later on.

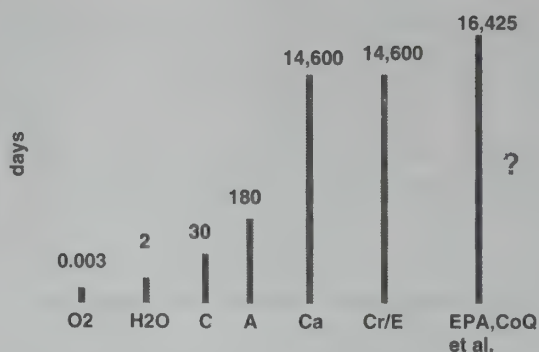
**MICRONUTRIENTS.** We consume vitamins (like C, E, A, D, and the B vitamins) and minerals (like selenium, chromium, and magnesium) in smaller quantities, hence the name "micro", meaning small.

The reason I bring up these basic nutrition facts is that many Americans are suffering from long term subclinical deficiencies of various nutrients that can induce or worsen diabetes. In the chapter on "nutrition supplements that may be of benefit" you will learn about vitamins, minerals, herbs, food extracts, and fatty acids that may dramatically improve the course of health for the diabetic. You might ask: "Why do I need these nutrients now? If I have been low in my intake of them all along, then why didn't I get sick earlier?"

In the hierarchy of nutrient needs, we must have oxygen first; because 5 minutes without oxygen and

we are dead. Next in line is water. We can last a couple of days without water. Next is calories, since we can live for 2 months or more without any food intake, other than water. Next are the micronutrients of vitamins and minerals. It might take 20 years of low intake of calcium to bring about osteoporosis, or hollowing of the bones. It might take 20-40 years of low intake of vitamin E to bring about excess rusting of fats in the bloodstream and a fatal heart attack. These nutrient deficiencies do not surface quickly, but they are important in the long run. Surviving does not equal thriving. We may be able to survive for decades without optimal amounts of chromium in the diet, but we become a ticking

### NUTRITIONAL DEFICIENCIES



time bomb waiting for some health disaster to occur. More on this subject when we talk about nutrition supplements in an upcoming chapter.

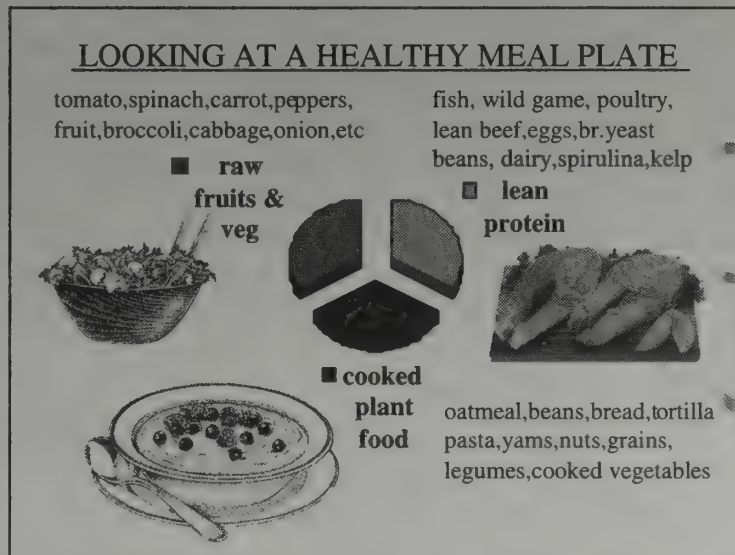
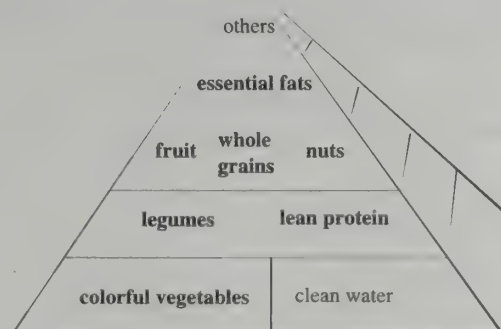
Many diabetics suffer from long term low intake of a wide assortment of nutrients. In some cases, diabetics need more than the average healthy person, as in the case of vitamin C. In some cases, few Americans get enough of these nutrients, such as chromium, magnesium, or fish oil.

This chapter was included to provide you with some basic facts regarding common malnutrition in the "healthy" American, and even more common malnutrition in the "well controlled" diabetic, which then leads to many nasty complications. We are going to make sure that you are optimally nourished, which will dramatically improve the course of your diabetes.



*The KISS (keep it simple, student) method of optimal nutrition.*

- ✓ Go natural. Eat foods in as close to their natural state as possible. Refining food often adds questionable agents (like food additives, salt, sugar and fat), removes valuable nutrients (like vitamins, minerals, and fiber) and always raises the cost of the food.
- ✓ Expand your horizons. Eat a wide variety of foods. By not focusing on any particular food, you can obtain nutrients that may be essential but are poorly understood while also avoiding a buildup of any substance that could create food allergies or toxicities.
- ✓ Nibbling is better. Eat small frequent meals. Nibbling is better than gorging. Our ancestors "grazed" throughout the day. Only with the advent of the industrial age did we begin the punctual eating of large meals. Nibbling helps to stabilize blood sugar levels and minimize insulin rushes; therefore has been linked to a lowered risk for heart disease, diabetes, obesity and mood swings.
- ✓ Looking at a healthy meal plate, have one third of your plate covered with lean and clean protein (see chart nearby), one third of your plate covered with wholesome low glycemic cooked plant food (such as oatmeal, steamed vegetables, or roasted walnuts), and the remaining one third of your plate covered with fresh, raw colorful vegetables and fruits (with heavy emphasis on the colorful veggies).
- ✓ Seek out nutrient-dense foods. Maximize your intake of life-giving foods, including fresh vegetables, whole grains, legumes, fruit, low fat meat (turkey, fish, chicken) and clean water. Low fat dairy products, especially yogurt, can be valuable if you do not have milk allergies or lactose intolerance.
- ✓ Monitor your quality of weight, rather than quantity of weight. Balance your calorie intake with expenditure so that your percentage of body fat is reasonable. Pinch the skinfold just above the hipbone. If this skin is more than an inch in thickness, then you may need to begin rational efforts to lose weight. Obesity is a major factor in diabetes. How much you weigh is not nearly as crucial as the percent of fat in the body. Skinfold thickness above the hipbone is a decent way of monitoring your percent body fat.
- ✓ Eat enough protein. Take in 1 to 2 grams of protein for each kilogram of body weight. Example: 150 pound patient. Divide 150 pounds by 2.2 to find 68 kilograms, multiply times 1 to 2, yields 68 to 136 grams of protein daily is needed.
- ✓ Use supplements in addition to, rather than instead of, good food. Get your nutrients with a fork and spoon. Do not place undo reliance on pills and powders to provide optimal nourishment. Supplements providing micronutrients (vitamins and minerals) cannot reverse the major influence of foods providing macronutrients (carbohydrate, fat, protein, fiber, water). Foods are top priority in your battle plan against diabetes.
- ✓ Shop the perimeter of grocery store. On the outside of your grocery store you will find fresh fruits, vegetables, bread, fish, chicken and dairy. Once you venture into the deep dark interior of the grocery store, nutritional quality of the foods goes way down and prices go way up. Organic produce is raised without pesticides and may be valuable in helping diabetics. However, organic produce is unavailable or unaffordable for many people. Don't get terribly concerned about having to consume organic produce. Any produce that cannot be peeled should be soaked for 5 minutes in a solution of one gallon lukewarm clean water with 2 tablespoons of vinegar.

**FOOD PYRAMID FOR DIABETIC PATIENTS**



- ✓ If a food will not rot or sprout, then don't buy it, throw it out. Your body cells have similar biochemical needs to a bacteria or yeast cell. Foods that have a shelf life of a millenia are not going to nourish the body. Think about it: if bacteria is not interested in your food, then what makes you think that your body cells are interested? Foods that cannot begin (sprouting) or sustain (bacterial growth) life elsewhere, will have a similar effect in your body.
- ✓ Dishes should be easy to clean. Foods that are hard to digest or unhealthy will probably leave a mess on plates and pots. Dairy curd, such as fondue, is both difficult to clean and very difficult for your stomach to process. Same thing with fried, greasy or burned foods.

#### *PATIENT PROFILE*

J.T. was quite an athlete in his college days, but business luncheons and TV weekends turned his muscle into fat. It was his near-fatal heart attack that brought his doctor's attention to J.T.'s Type 2 diabetes. J.T. had 2 choices: continue the route he had been travelling, which would probably kill him within a few years, or heed my advice and begin a healthy lifestyle program. He chose the latter. Within 6 months on the diet provided in this book, J.T. lost 60 pounds, lost 12 inches around his waist, was able to resume his favorite game of tennis and was most impressed by his returned mental alertness, which brought his marriage and job into higher levels.

#### **DR. QUILLIN'S ULTIMATE HEALTH TIPS**

1. Eat God's food, not mankind's food.
2. Maintain a healthy gut environment through fiber, fluid, and probiotics.
3. Take balanced supplements in addition to, rather than instead of, good eating.
- 4) Minimize intake of fat, sweets, salt, and alcohol.
- 5) Exercise & eat to leanness--pinch an inch above the hipbone.
- 6) Drink lots of clean water.
- 7) Emphasize lean meat and vegetables; with some whole grains, legumes, fruit, and nuts.
- 8) Tolerance--90% nutrient dense "good" food, 10% "others".
- 9) Detoxify--cleanse the body and avoid poisons.
- 10) Live, love, laugh, learn, forgive, sing praises, seek peace.

#### ENDNOTES

- <sup>1</sup>. Quillin, P., *HEALING NUTRIENTS*, p.43, Vintage Books, NY, 1989
- <sup>2</sup>. Surgeon Generals Report on Nutrition and Health, p.255, US Govt. Printing Office, Washington, 1988
- <sup>3</sup>. Patterson, BH, and Block, G., *American Journal of Public Health*, vol.78, p.282, Mar.1988



## CHAPTER 5



### **-NUTRITIOUS & DELICIOUS-**

by Noreen Quillin and Patrick Quillin

*"If you think health care is expensive now, just wait until the government makes it free."*

*~P.J. O'Rourke*

Eating is one of the greater pleasures in life. Following this new dietary program will involve some changes in your taste buds, yet still should bring great pleasure in your mealtimes. The most important therapy for Type 2 diabetes is the proper diet. There are no drugs or vitamin supplements that can compensate for a poor diet. In this chapter you will find 2 different approaches to eating: omnivore (wide assortment of animal and plant food), and "no work" (ready to eat foods from your grocery store shelf). These recipes and menu plans are examples to get you started in the right direction. The meals outlined in this chapter are nutritious, delicious, easy to prepare, and inexpensive to buy. These foods will offer some satisfaction for your sweet tooth. We don't expect you to completely deny your desire for sweet foods. However, we are asking you to ratchet back your expectations in how sweet a food should be. Give this eating plan a 3 week trial period. It takes that long for foods to become more familiar and new patterns to replace old patterns of eating.

#### *WHICH DIETARY PROGRAM SHOULD YOU FOLLOW?*

There has been no shortage of attempts to custom tailor diets to meet the needs of specific individuals. You cannot categorize 6 billion people into only 3 or 4 dietary patterns. Dr. Weston Price observed 12 very different eating patterns that varied from high fat-high meat to smaller amounts of meat. But Dr. Price never found a completely vegan group of people. All people have consumed some small amount of animal food to provide for a more nutritious eating pattern. My recommendation?

*Eat your ancestral diet*

Imagine the following experiment. Dr. Rabbit, Dr. Cat and Dr. Squirrel are conducting a study of the

#### **MERITS OF FOLLOWING YOUR ETHNIC DIET**

**Nutrition & Physical Degeneration, Price, 1945**

**Pottenger's Cats, Pottenger, 1983**

**Paleolithic Prescription, Eaton, 1988**

**Native Nutrition, Schmid, 1994**

**Coronary Heart Disease, Mann, 1993**

**The Zone, Sears, 1995**

**10 adult male aborigine diabetics, return to wild, diet high in meat, 7 wk: 18 lb loss, TG 75% drop, BG 50% drop, "cured", O' Dea, Diabetes, vol.33, p.596, 1984**

nutrient needs of their patients, consisting of 100 subjects of 33 cats, 33 rabbits and 34 squirrels. Dr. Rabbit puts everyone on a vegetarian diet, because Dr. Rabbit is a vegan. Some of the 100 "patients" get much better, some get worse and some stay the same. Dr. Cat steps up to the plate and takes the same "mono-mania" approach of putting everyone on a carnivorous diet, just like Dr. Cat. Same results: 1/3 get better, 1/3 get worse and the rest stay the same. Dr. Squirrel has the same luck with the mixed grain and nuts diet of squirrels.

Moral of the story: there is no one perfect diet for all 6 billion people on earth. In spite of various noble efforts to categorize people based upon their blood type, their build, their nervous system type, their Ayurvedic status or whatever...you need to ask the question: "What did my ancestors eat in their native land a thousand years ago?" When I asked this question in one group of cancer patients, a person responded, "Then I guess I should be eating hog fat, like my grandpappy who was a farmer in Arkansas." I replied that, in order to give adequate credit to the adaptive forces of Nature, we need to go back further than 50 or 100 years.



If your ancestors came from a warm and sunny climate, then they probably ate more plant food, which is available year round in the warmer climates, and less animal food. If your ancestors came from a colder climate, then you probably need more lean and clean animal food along with healthy amounts of unprocessed plant food. How many people from Scandinavia and Great Britain were vegetarians 1000 years ago?

**JUICING VERSUS PUREEING.** Juicing has its advantages, because one glass of carrot juice is equal to about a pound of carrots, which few of us could eat. Unfortunately, much of the valuable nutrients in the vegetables get tossed out with the pulp that is discarded. That is why I recommend that you puree rather than juice the vegetable or fruit. There are 10 times more body-strengthening agents in pureed whole vegetables than in juice extracted from vegetable pulp.

### ALCOHOL AND DIABETES

*"the difference between a medicine and a poison is the dosage"*

Alcohol is made when yeast ferment various carbohydrate foods: grapes into wine, rice into sake, barley and hops into beer, and so on. Alcohol has been used by humans since the dawn of time. Some religions use wine as part of their ceremonies. Other religions forbid the use of alcohol. Alcohol abuse is responsible for 125,000 deaths each year in America, including some cancers, liver damage, at least half of all traffic accidents, boating accidents, and nearly 75% of domestic violence. Alcohol consumed during pregnancy can create birth defects that vary from mild to the severe fetal alcohol syndrome. Some people, including 15 million American alcoholics, are not able to stop at one drink. Their lives can be destroyed if they do not stay away from alcohol.

That said, there seems to be a positive side to moderate alcohol intake. A textbook from the New York Academy of Sciences, **ALCOHOL AND WINE IN HEALTH AND DISEASE** (Dipak Das & Fulvio Ursini editors) has gathered the many studies showing that consumption of 1-3 glasses of red wine daily lowers the risk for heart disease by 30%, reduces the tendency for clots (thrombosis) to form in the bloodstream, raises the good cholesterol (HDL), improves the function of the lining of the blood vessels (endothelium), reduces the risk for diabetes, osteoporosis, gall bladder disease and many other conditions, and improves insulin resistance. A report (New England Journal of Medicine, vol.337, p.1705, 1997) from the American Cancer Society found that consumption of 1-2 drinks per day lowered overall death rates by 21% compared to non-drinkers. A study from Harvard University examined the effect of moderate alcohol consumption on insulin resistance in normal versus overweight women. Their conclusions: "Moderate alcohol consumption of 1-2 drinks per day on a few to several days of the week may have a beneficial glycemic effect, particularly among overweight women." (Diabetes Care, vol.26, no.7, p.1971, July 2003). The Department of Health of the United Kingdom even went so far as to recommend to the public: "...may wish to consider the possibility that light drinking might benefit their health." Some ethnic groups are vulnerable to both diabetes and alcoholism and need to avoid alcohol. You need to make the decision regarding your use of alcohol.

### SUGAR

If you are not supposed to eat sugar, then what are you supposed to do? Here are a couple of substitutions that are healthier for you. More information coming in the chapter on sweeteners.

**Stevia** is easily found in health food stores. There is the herb, which is dark in color and more medicinal, then the clear color one you use in cooking and to sweeten drinks. Many companies have their own brand of Stevia products. Since it is touted as being 200+ times sweeter than sugar, less is used, which is a good thing since it is expensive.

**Xylitol** is harder to find, though you can locate it on the internet and a few health food stores. It can be used like sugar.

Just because these sweeteners aren't harmful, the body wants to be in a healthy balance. Not having everything look, taste, and smell sweet, fills some people with a sense of denial. But the human race wasn't designed to live like hummingbirds. When you cut back on the intake of sugar and start tasting food in its natural state, a whole new culinary experience will begin.

**Substitutes for 1 Cup White Sugar****Reduce Liquids in Recipe**

Stevia Equivalents:	1/3 to 1/2 tsp. powder extract	
	1/2 to 3/4 liquid extract	
	1 1/2-2 Tbs. powder leaf	
Xylitol	3/4 cup	
Honey	1/2 cup	1/8 to 1/4 cup
Fructose	1/3 to 1/2 cup	1 to 3 Tbs.
Molasses	1/2 cup	1/4 cup
Unsweetened Applesauce	3/4 cup	1/3 to 1/2 cup
Mashed ripe banana	1 cup	
Sucanat	3/4 cup	1 to 2 Tbs.
Maple Syrup	1/2 cup	1/4 cup
Apple or other fruit juice	1 cup	1/4 cup

Vanilla, cinnamon, cardamom can be used to replace sugar in toppings and dessert sauces.

Aspartame and Saccharin are not healthy for the body. It is interesting to note that since the approval of NutraSweet, Americans have had a 300% increase in morbid obesity. The brain is not fooled by the fake sweetness and will send out signals to eat more food to get glucose for the brain. That is why you should pay attention to your reaction to Sucralose products, like Splenda, to see if it makes you crave more sweet foods.

Limit all sweet foods. If the food tastes sweet, it may raise blood glucose. Always eat a sweet item with a meal to slow down absorption. Fruit in small quantities at the end of dinner can make for a good dessert. In the summertime, frozen berries or a half of a frozen banana makes for a nice replacement for ice cream. Some of the better fruits are cherries, berries, apples, figs, kiwis, papaya, grapefruit, and pears. Limit dates and watermelon. A half of a teaspoon of honey cappings is a blast of sweetness. You chew it like you would gum and throw away the wax part when finished.

You can also replace milk, oil, and sugar in recipes with unsweetened applesauce. Cocoa powder has no sugar. You can use this with the Stevia or Xylitol products in recipes for that chocolate taste. Watch out for foods that claim they are low fat or low in sugar. They can be loaded with corn syrup, honey, or other sweeteners that affect the blood sugar level.

**FOR LOSING WEIGHT**

- \* Eat six small meals a day. For example: a light breakfast upon rising; a small amount of fruit with a protein serving later in the midmorning; a salad and half a sandwich at lunch; and the other 1/2 of the sandwich at mid-afternoon. Even if you over-indulge at one meal, make sure you eat on schedule. This concept, called periodicity, trains the mind and body that food is constantly coming into the system and there is no need to overindulge or become exceedingly efficient at storing calories.
- \* Enjoy a warm fluid, like tea or soup, about 20 minutes before mealtime.
- \* Use a smaller plate. It gives the illusion that you're eating more.
- \* Try not to eat after 7:30pm.
- \* Make a meal last for at least 20 minutes, which gives the brain time enough to receive the signal from the stomach to stop eating.
- \* Drink plenty of purified water. It is good for weight loss, constipation and wrinkles.
- \* Leave the last bite of food on the plate. That will be the sign you are done eating.
- \* Think of your weight as you want it to be. This way when you think about having that huge piece of cake, you will think to yourself, "A person of my weight wouldn't eat that. Practice the, "act as if" attitude.
- \* Exercise within your ability. Make sure you enjoy it.
- \* Eat more high-fiber foods, such as fruits, vegetables, beans and whole grain cereals.
- \* Plan your meals and snacks instead of waiting until you are hungry.
- \* When dining at a restaurant, ask for a carry out box to be brought with the meal. Then portion the amount before eating so there will not be temptation to keep nibbling.



**EATING OUT**

- Skip the iceberg lettuce and enjoy the healthier greens, vegetables and whole-grains from the salad bar. A good rule of thumb: the deeper the color of the vegetable, the more nourishing it is. Dark greens are better than pale greens, dark orange squash is better than pale squash, and so on. In nature, cauliflower is a dark green vegetable, until human intervention ties the leaves around the developing flower to deprive it of sunlight.
- Many restaurants offer low-calorie or light meals with gourmet versions.
- Instead of accepting that "fried" meal from a restaurant menu, most places will steam or broil your food.
- Ask for salad dressings, sauces, and gravies to be served on the side.
- Avoid foods deep-fried.

**Some Kitchen Hints**

- ⇒ Before cutting raw onions spray vegetable oil on your hands so that the odor washes off easily.
- ⇒ Add a few drops of vanilla to coffee for sweetness.
- ⇒ Make Better Butter by whipping together 1/2 cup olive oil and 1/2 melted cup butter. Refrigerate.
- ⇒ A pressure cooker is a great addition to the kitchen, especially when cooking in bulk. Good items to cook in bulk and have on hand are: beans, rice, refried beans, etc. Freeze in your average size meal servings. This way you can make your own TV dinners.
- ⇒ A crock pot is very handy to have in the kitchen. Place the ingredients into the pot in the morning and by evening the meal is ready.
- ⇒ Measuring honey. Measure the oil in your recipe first. The honey will just slide out of the measuring cup.
- ⇒ Produce that will not be peeled needs to be soaked in a gallon of tepid water with 1-2 Tbs. cheap vinegar. Soak for about 5 minutes, then rinse off.
- ⇒ Leave peeled baby carrots in purified water in the refrigerator. This will make them sweeter.
- ⇒ To quickly decorate an unfrosted cake, lay a paper pattern or dolly over the cake and dust with coca powder or xylitol and then remove dolly.
- ⇒ Sweeten desserts by adding extra cinnamon and vanilla.
- ⇒ Buy baking powder without alum in it.
- ⇒ You can add flax meal to salads and vegetables. Just sprinkle a bit on the top for a nice change of flavor.
- ⇒ Use leftovers for breakfast meals.
- ⇒ You can use unsweetened applesauce to replace 1/2 amount of oil in dessert recipes and add 1/4 to 1/2 tsp. lecithin.
- ⇒ Become a Label Reader. Check and see if that whole wheat bread lists "enriched flour" instead of whole wheat flour as the first ingredient. Beware of "fat free". See if sugar was added. Avoid hydrogenated fat and sugar. Sugar can be listed as: maltose, dextrose, fructose, sucrose, corn syrup, date sugar, etc.

**GARLIC MEASUREMENTS**

- 1 fresh clove = 1/8 tsp. dried minced garlic or garlic powder
- 1 fresh clove = 1/2 tsp. bottled minced garlic
- 1 tsp. garlic salt = 1/8 tsp. garlic powder plus 7/8 tsp. salt

**BULK COOKING**

Cooking in bulk saves time and gives you the ability to make your own "TV dinners". You can cook a 20-25 pound turkey and freeze leftovers in serving size amounts. Pressure cook beans and rice and freeze leftovers in meal servings. When grocery stores have a sale on bananas, you can peel them and place in freezer bags and freeze. These are great for blender drinks.

**GOOD FATS**

Kitchen: OILS from olive, canola, lecithin, coconut, rice bran, flax (do not heat), sesame vegetable spray oils (i.e. Pam), MCT oil, and better butter (1/2 butter & 1/2 canola or olive oil whipped together). Enova is a new FDA-approved oil that is more likely to be burned as energy, rather than stored as fat.

Therapeutic: fish, flax, borage, evening primrose, grape seed, hemp, black current, pumpkin, conjugated linoleic acid (CLA), medium chain triglycerides (MCT)

**BAD FATS**

Oxidized (repeatedly heated); hydrogenated; excess corn, soy, safflower (too much omega 6)

**IDEAS TO REPLACE FAT**

Marinate without fat using lemon, orange, tomato, yogurt & juice with herbs, sauces, tomato with onions and garlic, vegetable stock, etc.

Saute in: water, stock, vegetable bouillon, juice, liquid instead of oil or butter

Steam, cook or microwave vegetables

Bake flour or corn tortillas in oven instead of frying

Crackers often contain large amounts of hydrogenated fats

Use 2 teaspoons of coconut, olive, Enova, or canola oil, in place of 1 tablespoon shortening

Use raised broiler pan in oven so the excess fat will drop away

Avoid processed meats

Dairy: low fat or nonfat plain yogurt instead of sour cream

Avoid salad dressings using fat as main ingredient

Try food that will taste like it was fried. Dip chicken in beaten egg. Then dip in sack with whole wheat cracker crumbs, oat flour, corn meal, and spices. Spray with Pam. Bake 345 degrees for about 45 minutes, turning every 20 minutes, spraying with Pam.

**SALADS AND VEGETABLES**

Eat as many colorful vegetables as your colon can tolerate. This can seem like a challenge when you haven't been much of a green eater. It might seem to be a hassle to be fixing vegetables twice a day. One trick is to get a bunch of vegetables and greens and process them at once. Soak the vegetables that you won't be peeling in the kitchen sink full of water with about 1/4 cup of cheap apple cider vinegar. Then make a tray of bite size servings [example: baby carrots, broccoli flowers, cauliflower, cherry tomatoes, red bell pepper, snap peas, olives for color, etc.]. At the same time, cut enough vegetables to add to a large bowl of fresh greens. Now you have vegetables for most of a week.

**GROWING YOUR SPROUTS**

You can have an organic garden in your kitchen year round when you grow your own sprouts. Use a glass jar (quart size or larger) with a large lid size, soft screen with small holes so the seeds don't spill out, and a rubber band to hold the screen in place. There are also commercial sprouting kits available in most health food stores. Place about one heaping tablespoon of seeds (alfalfa seeds are the easiest to try) in your glass container. Add the screen over the top and secure with the rubber band. The seeds will expand about tenfold as they sprout, so allow enough room for their expansion. Fill the container half full of purified water and let stand overnight. Next morning drain and rinse the seeds. Let stand inverted at a 45 degree angle or so. A colander is one way to keep the angle for proper drainage. Rinse and drain twice each day for the next 6-7 days. Keep the jar away from heat or intense light.

Larger seeds, like peas, beans, and lentils take a shorter time to grow and should not be allowed to grow more than a half inch long or they will develop a bitter flavor. Mung bean sprouts can get up to two inches in length without bitter flavor. Wheat, barley, oats, and other grass plants make terrific sprouts. Smaller seeds, like alfalfa, can grow to an inch in length without any bitter flavor. For some extra vitamin A, let the alfalfa sprouts sit by a sunny window (not in direct heat) for the last day before eating. The green color indicates the welcome addition of chlorophyll, folacin and beta-carotene.



**RECIPES****Royal Salad Dressing****OPTION ONE**

1/4 cup raw-unfiltered organic apple cider vinegar  
 1/4 cup purified water  
 1 package dry Italian Salad Dressing Mix  
 1 Tbs. liquid lecithin  
 1/4 cup olive oil  
 1/4 cup certified organic flaxseed oil or Essential Balance, which is a blend of organic oils from flax, sunflower, sesame, pumpkin, and borage by Omega Nutrition (Staywell 800-661-3529)

Add the first 3 ingredients together in a jar with a lid. Then add the oil and lecithin. Shake vigorously. Keep refrigerated.

**OPTION TWO**

Take your basic Italian dressing bottle from the grocery store. Pour half into a container for later use. With the other half, fill to the brim with equal quantities of:

Vinegar

Olive oil

Flax oil

MCT oil

Water

1 Tbs. Lecithin

Extra seasonings if desired

Shake well before serving.

*Other dressings: check labels for sugar quantity*

**Beverages**

*Here are two easy recipes for healthy beverages:*

**Ginger tea**

1/2 to 1 tsp. grated ginger

1/4 tsp. vitamin C

1/2 to 1 tsp. honey

1 cup hot water

Mix all ingredients together.

**Rice Milk**

1/4 cup brown rice

1 1/4 quarts of purified water

1/8 tsp. sea salt

1 1/2 Tbs. honey

1/2 Tbs. light olive oil or MCT oil

Bring the rice and water to a boil; then simmer for 45 minutes, or pressure cook for 5 minutes. Strain the rice, saving the liquid. Add back 1/4 cup of the liquid to the rice in a blender. Add the salt, honey and oil. Blend on high. Add

rest of the fluid and blend. You can make it as thick or thin by the amount of the fluid you choose to add. Chill. Shake before using.

These recipes are ideas to get you thinking outside of your previous food habits. Get adventuresome at mealtime.

**MONDAY**

*If you don't want to eat eggs, here are some substitutes:*

Shakes can be a quick and easy breakfast. Depending on your calorie requirements, use this shake in addition to or instead of the breakfast suggestions listed later.

**DRAGONSLAYER SHAKE ingredients:**

4-8 ounces of liquid

10-15 grams (1-4 tablespoons) of powdered protein

1/4 to 1/2 cup vegetables, cooked or raw

1-3 tablespoons thickening agent

1-3 tablespoons of other ingredients, including ImmunoPower (800-247-6553), Perfect 7 (Agape 800-767-4776), flax oil, or Essential Balance oil.

Banana adds texture via pectin to make this shake have true milk shake viscosity. If the banana is frozen, it will give a thick "milkshake-like" texture to your drink.

Using a large powerful blender, such as a Vitamix (800-VITAMIX), puree all ingredients.

**OTHER BREAKFAST IDEAS**

-Leftovers, i.e. turkey sandwich

-Dragon Slayer drink

-Instant oatmeal with powder protein or rice bran  
 -100% whole wheat bagel with natural peanut butter

-Yogurt if you are not allergic to dairy.

-Protein bar that is low in sugar

**BREAKFAST**

**\*Dragon Slayer Shake**

*Ezekiel toast with natural peanut butter*

*Raspberries*

**LUNCH**

***Pork Chop, "fried" in pan with no oil***  
***Unsweetened whole canned cranberries***  
***Spinach with tomato slices***

***Easy Cauliflower Soup***

1/2 cup chopped white part of leeks  
 1 Tbs. butter or olive oil  
 3 cups cauliflower cut into pieces  
 2 cups chicken or vegetable broth  
 1/2 cup plain yogurt  
 1 Tbs. fresh dill, chopped  
 chili powder (opt.)  
 sea salt and pepper to taste

Cook leeks in butter until wilted, 5-10 minutes. Add broth and cauliflower. Cover and simmer over low heat for 10-20 minutes, until cauliflower is tender. Puree soup. Add the yogurt and spices to taste. Warm (do not boil). Serve.

**DINNER*****Hearty Pot Roast***

About 3-lb. Lean Eye of Round Roast  
 2 carrots  
 2 wedges of red cabbage  
 1 onion, sliced thick  
 4 garlic cloves, peeled  
 dried fruit (opt.)  
 dried tomatoes (opt.)  
 1/2 cup red wine or water  
 2 Tbs. soy sauce  
 2 Tbs. dry onion soup (without MSG)

Mix the last 3 ingredients in a cup. On high heat, brown the roast on all sides. Place the remaining ingredients, except vegetables, in a slow cooking pot. Add the vegetables 1-2 hours before mealtime. Pour the fluid over them. Cover and cook on low, 5 to 7 hours or until meat is tender. Serve.

***Baked Apples***

4 large flavorful apples  
 1/4 cup toasted wheat germ  
 1/4 cup raisins  
 1/4 cup chopped walnuts  
 1/4 of a lemon, juiced  
 1/8 tsp. cinnamon  
 1 Tbs. xylitol or honey  
 pinch of salt  
 1 Tbs. whole wheat, flaxmeal, or oat flour  
 1/4 cup apple juice

Preheat oven to 350 degrees. Core apples and place in a greased baking dish with a cover. It's good if the apples are a snug fit. If not, cut up a fifth apple in quarters and pack it in. Mix the wheat germ, raisins, nuts, lemon juice, cinnamon, xylitol, and salt and press lightly into the apple cores. Mix the flour and apple juice and pour over the apples. Bake 40 minutes, or until the apples are very soft. Let cool slightly before serving for best flavor.

***Carrot Slush***

Pureed carrot drink using 2 carrots peeled in a blender with diluted grape juice.

**TUESDAY****BREAKFAST**

***Leftover Turkey or other meat***  
***Salsa***

***White cheese (opt.)***

***Tortilla***

Roll ingredients in a tortilla and warm.

***Apricot*****LUNCH*****Shrimp Caesar Salad***

1 clove garlic, peeled  
 8 anchovy fillets, cut up (opt.)  
 1/3 cup olive oil  
 1/4 cup lemon juice  
 1 tsp. Worcestershire sauce  
 1/4 tsp. salt  
 1/4 tsp. dry ground mustard  
 Fresh ground pepper  
 Romaine lettuce, torn into pieces  
 1 pound cooked, peeled, shrimp  
 1/2 sliced avocado

Rub large wooden bowl with cut garlic. Mince the rest of the garlic and mix with the next 7 ingredients in the bowl. Add the lettuce. Toss until coated. Toss in the shrimp. Place avocado on top.

***Tangy Tomato Soup***

2 tsp. MCT or olive oil  
 1 onion, diced  
 2 cloves minced garlic  
 1 Tbs. whole wheat or oat flour  
 1 Tbs. minced ginger (opt.)  
 3 cups tomatoes, cut up  
 2 cup vegetable stock



1 tsp. soy sauce  
1 tsp. basil  
1 tsp. Spike  
pepper to taste

Fry onions and garlic in oil. Add the flour and cook the flour to remove the paste-like flavor. Don't burn. Add the rest of the ingredients and simmer until tomatoes are cooked.

### ***Tasty Pilaf***

2 Tbs. butter  
1 small onion, chopped  
1 cup uncooked bulgur  
2 cups chicken or vegetable broth  
1/4 tsp. salt  
1/4 cup chopped almonds (opt.)

Melt butter over medium heat. Cook onion for about 3 minutes stirring occasionally. Stir in bulgur. Cook 5 minutes stirring frequently. Add broth and salt. Stir. Heat to boiling, stirring once or twice. Reduce heat to low. Cover and simmer 16 minutes. Don't take off cover. Remove heat. Leave for 5 minutes. Serve with almonds on top.

## **DINNER**

### ***Savory Cod***

1 1/2 pound cod fillets  
1/4 cup sliced almonds  
1 Tbs. butter, softened  
1/2 tsp. salt  
1/2 tsp. paprika  
2 Tbs. lemon juice

Heat oven to 375 degrees. Grease baking dish with butter. Place cod in dish. Mix the next 4 ingredients. Spread over fish. Sprinkle with lemon juice. Bake uncovered 15 to 20 minutes or until fish flakes easily with fork.

### ***Spinach Linguine***

1/2 cup vegetable stock  
4 garlic cloves, minced  
10-ounces chopped fresh spinach, uncooked  
1 Tbs. basil (or 1 1/2 tsp. dried basil)  
1/2 tsp. pepper  
1/3 cup Parmesan cheese (opt.)  
12 ounces cooked whole wheat linguine

Fry garlic in stock in large saucepan over medium heat for 2 minutes. Add spinach, basil and pepper. Cook over low until heated through. Remove from heat. Mix the ingredients together.

Serve warm. (Undercooking noodles will help with the blood sugar level.)

### ***Colorful Salad***

Spinach leaves  
Alfalfa sprouts  
Carrots, grated  
Pickled beets, grated  
Edible flowers (i.e. pansy) opt.

On a bed of spinach leaves, place some sprouts, carrots and pickled beets. Sprinkle with \*Royal Salad Dressing and place a flower on the top.

### ***Oatmeal Raisin Cookie Delights***

1 cup uncooked oatmeal  
1 cup whole wheat flour  
1 tsp. cinnamon  
1/2 tsp. nutmeg  
1/2 tsp. baking soda  
1/4 cup xylitol or honey  
1/2 cup unsweetened applesauce  
1/4 cup canola oil, coconut oil or butter  
1/4 to 1/2 tsp. liquid lecithin (opt.)  
2 tsp. vanilla  
1 egg  
1/2 cup chopped nuts (opt.)  
1 to 2 Tbs. raisins

Heat oven to 375 degrees. Lightly spray cookie sheet with no stick cooking spray or use oven paper. Combine dry ingredients, mixing well. Mix the rest of the ingredients, then combine dry and wet ingredients stirring until well mixed. Cook 1 or 2 spoons of dough to test for texture. Add either fluid or flour if necessary. Place rounded spoonfuls of mixture on the cookie sheet. Bake approximately 10 to 12 minutes until golden brown. If you want a sweeter taste, you could add some xylitol to the batter.

## **WEDNESDAY**

### **BREAKFAST**

#### ***Hard boiled or deviled eggs***

#### ***Deviled Eggs***

4 hard-boiled eggs, peeled and cut in half lengthwise  
1-2 tsp. mayonnaise or yogurt  
1/2 tsp. prepared mustard  
1 tsp. pickle relish

Dash of onion powder  
Salt and pepper to taste

Remove yolks from eggs and mash. Set aside egg white halves. Mix the yolks with remaining ingredients. Spoon mixture into egg whites. Garnish tops with a dash of paprika.

***Sour dough toast***

***Carrot Sticks.***

## LUNCH

### ***Hummus***

1/2 onion, chopped  
1 clove garlic crushed  
1 tablespoon olive oil  
dash cumin  
1 teaspoon basil  
1/2 teaspoon oregano  
2 tablespoon parsley, chopped fine  
juice of 1 lemon  
1/4 cup sesame seed butter tahini (optional)  
3 cups cooked garbanzo beans, mashed  
salt to taste  
Dulse seaweed to taste

Saute onion and garlic in oil until onion is transparent. Add cumin and cook until fragrant. Add herbs at the last moment, cooking just enough to soften parsley. Mix with the lemon and mashed beans and tahini, and dulse, stirring together thoroughly. Makes about 3 cups.

### ***Pita Crisp***

Cut pita bread in half and then into strips. Heat oven to 400 and place strips on a baking sheet. Heat till crisp.

### ***Fast Vegetable Soup***

2 cups skim milk (or a milk substitute from soy or rice) or vegetable stock  
1/2 Tbs. butter  
1/2 Tbs. olive oil or MCT oil  
2 Tbs. whole wheat flour  
1 Tbs. Gayelord's vegetable broth, "Better than Bouillon" or a vegetable broth powder  
1 tsp. Spike or seasoning powder without salt  
1/4 tsp. chili powder or pepper to taste  
2 cups cooked vegetables (leftovers are great)  
Dulse seaweed

Put all ingredients except seaweed in a blender in the order listed. Cover with the lid and blend until smooth. Pour into a saucepan. Cook over low heat, stirring occasionally until hot. Add Dulse seaweed to taste

You can puree leftover vegetables from a previous meal and heat. Then add mini shredded wheat cereal to thicken.

***Strawberries, 1/2 cup***

## DINNER

### ***Simple Chicken & Sweet Potato Dinner***

2-4 medium sweet potatoes or yams

2-4 chicken breasts, washed

Onion powder

Spike seasoning or:

Lowery's seasoning salt without MSG

Place sweet potatoes that have been pierced with a knife in a foil-lined pan. In a 375 degrees preheated oven, cook the sweet potatoes for 30 minutes. Add the chicken that has been placed in a foil lined baking dish and sprinkled with the seasonings. Bake for 45 to 50 minutes. If the sweet potatoes are large, you can microwave them for 4 or 5 minutes before placing in the oven.

### ***Honey Baked Onions***

2 large mild onions

1/2 Tbs. honey

1 Tbs. soy sauce

1 Tbs. water

1 Tbs. olive oil

1/2 tsp. paprika

Dash of Lite salt or sea salt

1 tsp. Spike or favorite seasoning

Peel and cut onions in half crosswise. Place cut side down in a baking dish just large enough to hold all the onions in one layer. Sprinkle with water. Add the rest of the ingredients. Cover with foil and bake with the chicken.

### ***Steamed Broccoli***

### ***Apple or Pear Bread Pudding***

3 slices whole wheat or sour dough bread, cubed

1 1/2 Tbs. chopped walnuts or pecans (opt.)

3 small apples or pears, peeled and chopped

1/4 cup unsweetened apple juice

3 eggs

3/4 cup non fat plain yogurt or unsweetened applesauce

1/4 to 1/2 tsp. lecithin

1/2 tsp. ground cinnamon

2 Tbs. raisins (opt.)

1 tsp. vanilla



Preheat oven to 350 degrees. Sprinkle bread cubes and walnuts into a square pan coated with non-stick cooking spray. Sprinkle with chopped apples or pears; set aside. Beat together apple juice, eggs, yogurt, lecithin, cinnamon and vanilla until smooth. Pour over bread and fruit in pan. Bake for 30 minutes. Press fruit down into custard with spatula and bake an additional 20 minutes until custard is set. Serve warm or cold.

## THURSDAY

### BREAKFAST

#### *Power Oatmeal*

3/4 to 1 cup hot water  
1/3 cup old-fashioned oats, uncooked  
2 Tbs. unsweetened apple juice  
1 Tbs. Raisins (opt.)  
1/2 tsp. ground cinnamon  
1/2 tsp. vanilla  
1 tsp. flax meal  
1 scoop protein power

Mix all ingredients together. Heat in the microwave for about one minute.

#### *Red grapefruit, 1/2 cup*

### LUNCH

#### *BBQ Halibut*

#### *Steamed Asparagus*

#### *Vampire Slayer*

1 bulb/head of garlic  
2 to 3 tsp. olive oil  
soy sauce  
Spike, or favorite seasonings

Cut the garlic head through the fattest part in the center. Break up the pieces. Place in a glass cup and sprinkle with olive oil, soy or teriyaki sauce and seasonings. Microwave for 1 to 2 minutes until soft. Cloves can be squeezed out of their peeling. Tastes like spring potatoes.

#### *Fettuccine*

This recipe is for people who do not have a dairy allergy.

5 oz. whole wheat or spinach fettuccini or linguini  
1 Tbs. butter  
1/2 cup skim evaporated milk, or rice milk  
1/4 cup grated Parmesan cheese (opt.)  
1/4 tsp. pepper (or chili powder)  
1/8 tsp. nutmeg

Cook noodles according to package.

Don't overcook noodles. Drain. Melt butter in a small saucepan and add milk. Heat just until hot. Do not boil. Place cooked noodles in a serving bowl. Add milk and 1/2 cheese. Toss. Add the spices and toss again. Add remaining cheese. Serve.

### DINNER

#### *Spicy Mexican Beans*

2 cups pinto beans  
1 large onion, diced  
4 cloves garlic, minced  
2-3 dry red peppers, minced (can cut with scissors)  
1 Tbs. chili powder  
1 tsp. cumin powder  
1/4 cup olive oil  
2 tsp. sea salt  
Purified water

Sort and wash beans in a colander. Place beans in a pressure cooker and add enough water to cover the beans and then 4 cups more. Bring to a boil and boil for 2 minutes. Cover and leave for 1 hour. Drain and rinse beans. Place beans back into the pressure cooker and add water to just cover the beans. Add the rest of ingredients and close lid. Heat on high until the weight starts rocking. Turn down the heat but keep the weight moving for 25 minutes. Turn off heat. Let the pressure cooker sit until the indicator shows that all pressure has been released. Remove lid and mash the beans with an egg beater until about 1/2 of the beans are mashed.

If you don't want to use a pressure cooker, follow the steps except when placing the beans with the rest of the ingredients, place the beans and ingredients in a large pot and let boil for about 90-120 minutes or until beans are tender. More water will be needed. Mash the beans with a blender to desired consistency.

#### *Whole wheat tortillas*

#### *Salsa*

#### *Avocado, sliced*

#### *Swiss Cheese, shredded*

#### *Onion, diced*

Wrap the ingredients in the tortilla and serve.

To give you a few ideas: these beans can be used in a bowl with leftover meat; burritos (add ground, cooked beef and cheese in a whole wheat tortilla); a bean sandwich with a slice of onion on top; or use as a hot dip with baked chips.

***Tossed green salad with Royal Salad Dressing******Blueberry Crisp***

3 cups blueberries or 1 package (16 ounces) frozen unsweetened blueberries  
 1 Tbs. lemon juice (opt.)  
 1 to 2 Tbs. fructose or xylitol  
 1/2 cup oat flour  
 1/2 cup cooking oats  
 1/4 cup butter  
 1 tsp. cinnamon  
 1/4 tsp. salt

Heat oven to 375 degrees. Arrange blueberries in a square baking dish, 8x8x2 inches. Sprinkle with lemon juice. Mix the rest of the ingredients. Sprinkle on top. Bake until the topping is light brown and the berries are hot, about 25-30 minutes. You can use a variety of different fruits in this crisp recipe. (If you like the topping more crunchy, add 1/2 cup oatmeal.)  
 Example:

For apple crisp: use 4 cups sliced tart apples, and 3/4 tsp. of nutmeg with the cinnamon.

**FRIDAY****BREAKFAST*****Lean Steak***

Quick fried in olive oil with sliced onions and garlic.

***Tomato Slices******Fresh Kiwi or Papaya*****LUNCH*****Ginger Tofu***

1/4 cup soy sauce  
 1/4 cup honey  
 1/4 tsp. garlic  
 1/4 tsp. onion powder  
 1" to 1 1/2" chunk of fresh ginger grated  
 6 cups tofu, chunks or sliced

Blend first 5 ingredients together. Pour over slices or pieces of tofu that have been placed on a large vegetable oil sprayed baking dish. Cover with foil and bake at 375 degree for about 20 minutes. Lift up corner of foil to make sure tofu is boiling and swollen. Remove foil and flip tofu over with a spatula. Bake 25-35 minutes or until sauce dries out and tofu is brown. Stir a few times in between.

***Brown Rice Delight***

2 cups cooked instant brown rice or cooked brown rice  
 1 apple, diced  
 1-2 Tbs. walnuts or pecans, chopped  
 1-2 Tbs. raisins (opt.)  
 2 Tbs. celery leaves, chopped  
 1 tsp. poultry seasoning  
 1 Tbs. almond slices

Mix all ingredients together. Add a few teaspoons of water if too dry. Microwave for 1 minute.

***Spice Beets***

2 cups cooked beets, grated  
 1/4 cup water  
 1/3 cup vinegar  
 1/2 Tbs. xylitol, honey, or fructose  
 1/2 tsp. cinnamon  
 1/4 tsp. cloves  
 1/4 tsp. salt

Mix all ingredients together and simmer 7-10 minutes.

**DINNER*****Easy Salmon Dinner***

1-2 pound salmon filet or steak  
 Low sugar Teriyaki sauce

Turn on broiler. Place salmon on broiler pan sprayed with vegetable oil where you will be placing the salmon. Broil on one side for about 8 minutes. Flip. Spread the teriyaki sauce on the top of salmon. Bake another 8 minutes or until done. You might have to move the fish to a lower shelf so the top doesn't burn. If you are broiling halibut or a less oily fish, you can put foil on the broiling pan to save on clean up time.

If you don't have access to fresh fish:

***Salmon Cakes***

1 can (14.75 oz) salmon  
 2 eggs  
 1 cup dry oatmeal cereal  
 1/2 Tbs. lemon juice  
 2 tsp. minced parsley  
 1 tsp. onion powder  
 olive oil

Drain salmon. Skim off skin and bones. Mix all ingredients. Make into patties. Fry in 2tsp. olive oil. When brown, flip and brown other side.



**Onion Soup**

1/2 Tbs. sesame oil, butter, MCT, or olive oil  
 1-2 large white or yellow onions, thinly sliced  
 2 cloves crushed garlic  
 4 cups stock (Gayelord's vegetable broth)  
 1-2 Tbs. miso  
 1/4 cup chopped celery leaves (opt.)  
 1-2 tsp. molasses or 5-10 drops Stevia  
 2 tsp. Spike or favorite seasoning powder

Fry onions and garlic in the oil over medium heat in a saucepan for about 10 minutes. Add the rest of the ingredients and bring to a boil. Reduce heat and simmer for 5 to 10 minutes.

**Evening Oats**

1 small to medium apple, chopped  
 1Tbs. butter  
 1 1/2 cup uncooked rolled oats  
 1 egg, beaten  
 1/2 cup water  
 1 Tbs. honey  
 1 tsp. cinnamon  
 1/4 tsp. sea salt  
 1 tsp. vanilla

Fry the apple bits in butter in a skillet. Combine oats and the egg in a bowl. Mix. Add oats to apples. Cook over medium heat 3 to 5 minutes, stirring until oats are dry and slightly brown. Add remaining ingredients. Continue cooking, stirring occasionally until liquid evaporates, about 3 minutes.

**Mix Green Salad****Chocolate Brownies**

1/2 cup cocoa powder  
 3/4 cup oat or whole wheat flour  
 1/2 cup xylitol or honey  
 1 Tbs. flax meal (opt.)  
 1/2 tsp. baking powder  
 1/2 tsp. salt  
 2 Tbs. coconut oil, MCT oil or butter  
 1/4 cup peanut butter  
 1 tsp. lecithin  
 1/3 cup applesauce  
 2 eggs  
 2 tsp. vanilla  
 1/3 cup warm water (more if batter is too stiff)  
 1/2 cup chopped nuts, or unsweetened coconut (opt.)

Heat oven to 350 degrees. Mix dry ingredients. Add and mix remaining wet

ingredients. The batter should be stiffer than cake batter. If the batter is too stiff, add more applesauce or water. Spread in greased pan. Bake until brownies begin to pull away from the sides of the pan, about 40 minutes. Don't overcook. For more of a cake texture, add more baking powder.

**SATURDAY****BREAKFAST****Easy Pancakes**

2 small to medium bananas  
 3 eggs  
 1 Tbs. vanilla or maple extract  
 1 Tbs. baking powder (without alum as an ingredient)  
 Oat flour  
 Blend the bananas, egg and vanilla in the blender. Add the baking powder and then add the oat flour until the whirlpool of the blending mix will no longer take any more flour (about a cup or less). Fry as normal in a frying pan sprayed with Pam. Cover while cooking on the first side only.

You can make your own oat flour by first blending rolled oats (i.e. Quaker Oats Oatmeal) in the blender and setting the flour aside.

**Scrambled Eggs****Fresh orange slices****LUNCH****Cottage Cheese Spread**

1/2 cup creamed cottage cheese  
 2 Tbs. wheat germ or flaxmeal  
 1/2 tbs. green chillies  
 1/8 tsp. oregano leaves  
 1/8 tsp. basil leaves  
 2 tsp. finely chopped onion  
 dash salt  
 dash Tabasco (optional)  
 tomato slices  
 alfalfa sprouts

Mix first 8 ingredients together well. Put mound of mixture on a slice of whole wheat bread or toast. Top with a tomato slice and sprouts. Can have an open face sandwich or closed. Or serve with toasted pita bread chips

**Vegetable tray**

Cherry tomatoes, sliced carrots, bite size broccoli and cauliflower, sliced bell pepper, or other favorite vegetables served on a platter.

***Grapefruit Salad***

Peel and section grapefruit and arrange on top of spinach leaves or alfalfa sprouts. Can garnish with almond slices.

**DINNER*****Hamburger Patty***

Lean ground steak, formed into a patty and cooked to your preference.

***Carrot and Cabbage Salad***

2 cups grated carrots  
2 cups grated cabbage  
1 spring onion chopped (opt.)  
1/4 cup raisins (opt.)  
1/4 cup of pecans, walnuts or almonds chopped (opt.)

Mix together and cover with the Royal Salad Dressing found in the beginning of this section.

***Oven Baked French Fries***

4 sweet potatoes  
Lite salt or sea salt to taste  
Vegetable oil spray (i.e. Pam)

Cut potatoes into strips. Arrange on oven paper or a Teflon baking sheet. Spray with the oil. You can try other seasonings such as garlic powder, onion powder, or chili powder. Bake at 425 degrees for 15-20 minutes or until golden brown. Turn. Bake 15-20 more minutes or until tender. Note: To shorten baking time, microwave sliced potatoes for 3 minutes before placing in oven.

***Cake Supreme***

1/4 cup xylitol or fructose  
1/4 cup canola oil  
1 egg  
2/3 cup unsweetened applesauce  
2 tsp. vanilla  
1/4 to 1/2 tsp. liquid lecithin  
1 cup whole wheat flour  
2 tsp. baking powder  
1/4 tsp. salt

Beat together the first 6 ingredients. Add the remaining ingredients, stirring until smooth. Pour batter into a greased glass baking dish. Cook in microwave on medium or power level 7 for about 10 minutes. Then cover until cool. Don't overcook.

A frosting can be made with: mashed banana with peanut butter; a bit of honey and peanut butter mixed together; or frozen berries mashed and poured on top of the slices of cake. A frosting: (*If you aren't worried about calories.*)

***Peanut Chocolate Heaven***

3 Tbs. peanut butter  
1 1/2 Tbs. bitter or semi sweet chocolate chips  
1/2 to 1 tsp. honey

Place all ingredients in a glass cup and microwave for 25 to 30 seconds. Cream together with a spoon. Spread it thin for the frosting.

**SUNDAY****BREAKFAST**

***Plain Yogurt and Strawberries, (with Xylitol opt.)***

***Cooked Turkey or Real Bacon***

***Oat Raisin Scones***

1 cup rolled oats  
1 cup whole wheat flour  
1 Tbs. Xylitol or fructose  
1 1/2 tsp. baking powder  
1/4 tsp. soda  
1/8 tsp. salt  
1/4 cup raisins  
1/4 cup light olive oil or MCT oil  
1/2 cup unsweetened applesauce  
1/4 to 1/2 tsp. liquid lecithin  
1 Tbs. lemon juice  
1/4 tsp. cinnamon  
1 egg

Blend together the dry ingredients. Add the raisins. Combine the rest of the ingredients. Mix. Turn dough out onto a lightly floured surface. Flour your hands. Dough might be a bit sticky. Don't add too much flour or it will toughen the scones.

You can use a spatula to help in the kneading. Knead about 8-10 turns. Divide dough into two equal parts. Pat each part into a circle 1/2 inch thick. Cut into quarters. Transfer onto a baking sheet sprayed with vegetable oil or lined with oven paper. Bake until golden, about 20-25 minutes in 400 degree preheated oven. The scones can make a great dessert by serving warm and sprinkling a bit of powder Stevia with cinnamon on top of the scones.



**LUNCH*****Crab with Walnuts***

In a small amount of olive or coconut oil, fry crab meat or imitation crab (pollock fish), diced spring onion, sliced mushrooms, and walnuts. Variation: bamboo shoots, olives, green chili, sunflower seeds.

***Carrot & Ginger Onion Soup***

1/2 medium onion, diced  
2 cloves garlic, minced  
1 Tbs. olive oil  
1lb. carrots, cut into 1-inch chunks, cooked  
1Tbs. peeled & chopped ginger root  
1 tsp. spike (seasoning) opt.  
2 cups vegetable broth

Fry the onion & garlic in oil until soft. Add rest of ingredients and simmer 10 minutes. Puree in a blender and serve. Add salt and pepper to taste.

*Sourdough or 100% Stone ground whole wheat roll*

**DINNER*****Turkey Feast***

18 -20 pound turkey, thawed  
Olive oil

Take out the parts inside of the turkey. Take out any wad of fat. Rinse. Pat dry. Tie the bird wings and legs together with cotton string. Place in roasting pan. Spread a little olive oil over the top of the bird. Cover with lid or foil. (You might need to take two pieces of foil and fold the two edges together lengthwise about 1/4 inch. Repeat. When placing foil over turkey, go around the edge of pan and push gently on the foil so it fits below the rim on the inside of pan. (This will keep the juices from escaping and soiling the oven.) No basting is needed. Bake at 350 degrees for about 5 1/2 to 6 hours (less time if you like turkey very moist). Clean meat off the turkey bones while it's still warm. (The meat falls off easily). Divide in serving size portions and place in freezer baggies. Cool in refrigerator, then freeze what you will not eat in a few days.

Many people don't know what to do with the dark meat. A good sandwich paste can be made by using dark meat with mayonnaise, mustard, onion powder, salt and pepper. Blend in a food processor. Or use the meat in burritos, tacos, soups and casseroles.

Variation:

***Savory Turkey Loaf***

1 cup onion (large) diced  
1/2 cup green pepper, diced  
2 cloves garlic, minced  
1/2 tsp. black pepper  
1 piece whole wheat bread, cubed  
1 egg  
1 tsp. liquid lecithin  
1 tsp. Worcestershire sauce  
1/4 tsp. Tabasco  
1 tsp. Spike, or dry poultry seasoning  
1 tsp. dry oregano  
1 Tbs. chopped parsley  
12 ounces tomato sauce  
1 pound raw ground turkey

Preheat oven to 425 degrees. Mix all ingredients reserving 1/2 cup tomato sauce. Spray a 4x8 loaf pan with vegetable coating spray and place mixture in pan. Pat down until firm and top with remaining sauce. Bake at 425 degrees for 1 hour until lightly browned around edges.

***Sweet Potato, baked with Turkey or Sweet Potato Delight***

1-2 Tbs. olive oil  
2 medium sweet potatoes, grated  
1 medium onion, grated  
1/3 tsp. sea salt

Add oil to frying pan. Add the rest of the ingredients and cook, covered, on medium heat. When brown on bottom, flip and cook with lid off until golden brown.

***Tomato & Red Onion Salad***

sliced tomatoes  
thinly sliced red onion, separate rings

Alternate sliced tomatoes and onions. Top with:

-grated Parmesan cheese  
-basil  
-fresh herbs  
-grape-nuts (if you like crunchy food)  
-sunflower seeds  
-Royal Salad Dressing found in the beginning of this section.

***Rice Porridge***

1 cup cooked brown rice, cold  
1/2 cup apple juice  
1/4 cup water

2 Tbs. raisins or other dried fruit

1/2 tsp. cinnamon

2 Tbs. chopped nuts

Place all ingredients in a saucepan. Bring to a boil, then reduce heat and simmer, covered,

15 minutes stirring frequently. Most of the liquid should be absorbed. Serve warm. If creamier porridge is desired, puree half.

#### **PATIENT PROFILE**

M.V. had been an award winning chef in a major city restaurant when the overeating pushed her into Type 2 diabetes. She already had the beginnings of blurred vision and tingling in the feet when she passed out one night at work. M.V. loved to cook and eat and was distressed when I suggested a new way of eating. However, once she tried some of these recipes, she found an enjoyment that was not found in her heavy sauces. "Clean and unadulterated" food became her motto. Demand for her services at other restaurants brought her a raise and fame with her "low fat, low sugar, high taste" cuisine. Her blood glucose and body weight are both within reason and she no longer has problems with poor circulation in her feet or eyes.

#### **YOUR MENU IDEAS AT A GLANCE ONE WEEK OF HEALTHY EATING**

<b>DAY</b>	<b>BREAKFAST</b>	<b>LUNCH</b>	<b>DINNER</b>
<b>MONDAY</b>	Dragonslayer shake, ezeikial bread with peanut butter, raspberries	lean pork chop, cranberries, spinach with tomatoes, cauliflower soup	pot roast, baked apples, carrot slush drink
<b>TUESDAY</b>	leftover turkey, salsa, cheese, tortilla, apricot	shrimp salad, tomato soup, pilaf	cod, spinach linguine, salad, oatmeal cookies
<b>WEDNESDAY</b>	deviled eggs, sourdough toast, carrots	hummus, pita bread, vegetable soup, strawberries	chicken, sweet potato, onions, broccoli, pudding
<b>THURSDAY</b>	oatmeal, red grapefruit	halibut, asparagus, garlic, fettuccine	beans, avocado, tortilla, salsa, salad, blueberry crisp
<b>FRIDAY</b>	steak, tomato, kiwi	tofu, rice, beets	salmon, onion soup, oats, salad, chocolate brownies
<b>SATURDAY</b>	pancakes, scrambled eggs, orange slices	cottage cheese spread, veggie tray, grapefruit salad	hamburger, carrot & cabbage salad, french fries, cake
<b>SUNDAY</b>	yogurt, strawberries, turkey, oat scones	crab, carrot soup, sourdough roll	turkey, sweet potato, tomato & onion, rice



## CHAPTER 6



### **-SUPER FOODS- TO REVERSE DIABETES**

"The excessive use of sugar as a food is usually considered one of the causes of diabetes." Encyclopedia Britannica, 1911

While there are no magic bullets to cure diabetes, there are several "superfoods" that can dramatically improve the quantity and quality of life for the diabetic. These foods are a rich and complex array of phytochemicals, special fatty acids, vitamins, minerals, and other unknown "sub-nutrients" that improve blood glucose regulation, enhance insulin activity, and slow down the complications of diabetes.

#### **FISH**

Deep clean coldwater fish is on just about every nutritionists list for a "superfood". Fish is not only rich in protein, vitamin B-6, B-12, and trace minerals from the sea, but fish also contains the missing fat in the American diet: omega 3. In one study, people who consumed less than an ounce of fish daily, or 7 ounces weekly, had a significant reduction in their incidence of glucose intolerance along with a general 50% reduction in mortality.<sup>1</sup> If you absolutely cannot stand the taste of fresh fish, then try taking capsule supplements of fish, such as SeaCure (800-555-8868).

Small amounts of clean cold water fish, such as salmon, halibut, sole, cod, tuna, trout, sardines, and others can dramatically protect the diabetic from the complications of the disease.<sup>2</sup> Fish oil provides a crucial nutrient to the delicate cell membranes, which then are better able to receive insulin and allow for glucose to pass into the cell. Our ancestors used to eat a diet of about 20% fat with a ratio of 1 to 1 of omega 3 to omega 6 oils and no hydrogenated (trans) fats. Our current American diet provides about 40% of calories from fat with a 1 to 30 ratio of omega 3 to omega 6 fats and frightening levels of trans fats to confuse the cell membrane insulin receptors. Avoid hydrogenated fats like Crisco and margarine. Consume fresh fish and take fish oil or flax oil supplements.

#### **VINEGAR**

Real vinegar has not been filtered or pasteurized, and is rich in organic acids, mother of vinegar "friendly" bacteria, pectin (soluble fiber), and acetic acid all of which help to slow down the emptying of the stomach. This simple "detour" for the digestion of food creates a slowdown in dumping glucose into the bloodstream. A meal with 2 tablespoons of vinegar can slow gastric emptying rate by 30% and drop blood glucose peaks by 30%.<sup>3</sup> Check out the "nutritious & delicious" chapter for a fabulous "Blue Ribbon diabetes buster" recipe for salad dressing with flax oil and vinegar that not only tastes great but can dramatically improve overall health by lowering rises in blood glucose. Red wine vinegar works best at this hypoglycemic role.

#### **COLORFUL VEGETABLES**

Free radicals, or prooxidants, have been labeled the "age inducers" of the human body. Free radicals steal electrons from tissue, like your heart, blood vessels, brain, cell membrane and DNA; leading you toward premature aging and diseases. This destructive process is accelerated in diabetics. Antioxidants block the destruction caused by free radicals and the richest sources of mixed antioxidants are in colorful fruits and vegetables. The reason for this cornucopia of antioxidants is that plants must stay out in the damaging free radical bombardment of the sun and need some protection. The "sun protective tanning agents" are colorful pigments in plants. These pigments that protect the plant from the damaging effects of the sun can become a bulletproof vest for you in your quest to retard the free radical production found in diabetics.

There are over 20,000 known bioflavonoids (such as quercetin from onions) and over 800 different carotenoids (such as beta carotene from carrots). Together, these bioflavonoids and carotenoids form a tight network of antioxidants to corral the damaging effects of free radicals. Much of the complications from diabetes come from the stepped up free radical production as a consequence of too much glucose in the bloodstream.

Therefore, spinach and collards are more nutrient dense in these pigment antioxidants than iceberg lettuce. The darker the red of the tomato, the richer the antioxidant content. Red grapes are better than white grapes. Raspberries and boysenberries even have their own pigment antioxidant, ellagic acid, that has piqued the interest of the National Institutes of Health for its ability to control unwanted growth in the body. Mix up a huge salad bowl of colorful vegetables and keep it covered in the refrigerator. Scoop up a bowl of these colorful veggies at most of your meals.

### **BREWER'S YEAST**

In order for glucose to get inside the human cell, there must be two "doormen" available: Glucose Tolerance Factor, a molecule that contains niacin and chromium, along with the more famous doorman, insulin. In many Type 2 diabetics, lacking the GTF doorman brings on elevated blood glucose and a cascade of problems. The richest food source of GTF is brewer's yeast. Mix a tablespoon of this grainy, nutty tasting powder into a blended shake of orange juice, powdered protein, flax oil, and lecithin. In 10-20% of Type 2 diabetics, this food alone can substantially reduce glucose levels for Type 2 diabetics.

### **FLAX**

With respect to fats, the statement "You are what you eat" is exactly true. The fats in your body, brain, insulation for nerve cells, cell membranes, and prostaglandins all comes from your diet. If your diet is high in hard fats, like saturated fats from margarine and beef, then the fats in your cell membranes are more rigid. If your diet is rich in highly unsaturated fats from fish and flax oil, then your cell membranes become more flexible and are better able to perform their duties.

Our ancestors ate a diet that was approximately 1 to 1 ratio of omega 6 fats (soy, corn, safflower) to omega 3 fats (fish and flax). We now eat a diet that contains a ratio of 30 to 1 omega 6 fats to omega 3 fats.<sup>4</sup> This mind boggling imbalance has brought a host of diseases, including cancer, heart disease, infections, arthritis, and diabetes.

Diabetes oftentimes originates when the cell membrane does not recognize the insulin outside, though there may be plenty of insulin. Lack of omega 3 fats from fish and flax can be the cause of this improper construction of the cell membrane insulin receptor. Flax oil contains alpha linolenic acid which can be slowly and inefficiently converted into fish oil (eicosapentaenoic acid) in the body. Yet flax oil is cheaper and tastes much better than fish oil. See the recipe chapter for a fabulous salad dressing with flax oil.

### **CINNAMON**

When researchers at the United States Department of Agriculture (USDA) investigated the effects of several spices reported to improve diabetes, they were surprised that cinnamon, cloves, turmeric (mustard), and bay leaves actually had a measurable impact on making insulin more effective in the body. Of all these therapeutic herbs, cinnamon was the champion. Since cinnamon has no calories, makes insulin more effective, and makes food taste better, use it liberally.

### **ONION**

Onions, whether cooked or raw, contain a substance, allyl propyl disulfide (APDS) that dramatically lowers blood sugar. APDS apparently helps to prevent the liver's deactivation of insulin, which allows insulin to stay in the bloodstream longer and lower blood glucose. Onions actually came close to having the same therapeutic effect as the drug tolbutamide in animal studies. Eat onions often. Eat any color of onions, cooked or raw.



**GARLIC**

Garlic may be one of the more valuable foods on the planet earth for reversing both diabetes and the many complications of diabetes. First mentioned as a medicine about 6000 years ago, garlic has been a major player in human medicines throughout the world. In the tomb of the Egyptian king, Tutankhamen, were found gold ornaments and garlic bulbs. Slaves who built the Great Pyramids relied heavily on the energizing power of garlic for their work. Hippocrates, father of modern medicine, used garlic to heal infections and reduce pain. Although garlic has been a medical staple of many societies for over 4000 years, only in the past few decades when over 2000 scientific studies have proven its healing value, has garlic received the respect and attention that it deserves.

The debate continues regarding the active ingredients in garlic, but they may include amino acids (like the branched chain amino acids of leucine and isoleucine), S-allyl cysteine, allicin, and organically-bound selenium. In a double blind trial in humans with high serum cholesterol, aged deodorized garlic with no allicin content was able to lower serum cholesterol by 7%.<sup>5</sup> While garlic, in general as either aged, fresh, cooked or in supplement form, is a healthy addition to anyone's nutrition program; aged garlic extracts were effective at protecting animals from liver damage.<sup>6</sup>

Garlic helps to modify extremes in blood glucose. A study published in the Journal of the National Medical Association referred to garlic as "...a potent, non-specific biologic response modifier."<sup>7</sup> See the recipe section for fabulous microwave oven roasted garlic cloves.

**GRAPEFRUIT**

Since heart disease and cholesterol build-up in the arteries is a prime enemy of the diabetic, grapefruit can come to the rescue. Dr. James Cerda, professor of gastroenterology at the University of Florida has found that the fiber in grapefruit can measurably lower serum cholesterol in humans. This fiber is not found in grapefruit juice, and less of it is found in the sectioned grapefruit that many Americans eat. Try quartering a whole grapefruit, then peel it, cut out the center seed section with a sharp knife, then eat the remaining whole grapefruit as if it were a large tart orange...delicious and good for you. Red grapefruit is also rich in bioflavonoids and carotenoids. Grapefruit is one of the best of all fruits for avoiding sharp rises in blood glucose.

**SOLUBLE FIBER FOODS**

Our ancestors consumed a diet containing 50 to 100 grams of fiber daily, with a rich mixture of both soluble and insoluble fibers. Today, we consume less than 20 grams of fiber, with a serious shortage of soluble fibers. This fundamental flaw in our diet along with too much sugar probably initiates more diabetes than any other nutrition factors mentioned in this book.

Soluble fiber forms a gelatinous mass in the fluid bath of the intestines, which creates an interfering net that slows down the absorption of glucose into the bloodstream. The following foods are rich sources of soluble fibers that can dramatically improve the course for Type 2 diabetes: brussel sprouts, okra, peas, broccoli, carrots, oat, beans, peas, garbanzo beans, sea vegetables.

*PATIENT PROFILE*

A.R. had watched her mother go through the various complications of uncontrolled diabetes, including blindness and kidney failure. A.R. vowed never to go through such an ordeal. But A.R. was diagnosed with Type 1 diabetes after she underwent a hysterectomy for a benign growth on her ovaries. The first year after her diagnosis she ate out of depression. Her weight and blood glucose levels went up and her physical and mental energy levels went down. When she came to me she was in tears for the fear of going through what her mother had experienced. I assured her that she could do a much better job of controlling her blood glucose through diet, exercise, weight loss, and supplements. She started using a teaspoon of brewer's yeast each morning in her pureed vegetable drink and took the high doses of niacin mentioned in the supplement chapter. Six months into her program, A.R. called me because she had a date, her first since her divorce 5 years ago. She looked, felt great, and had lost the need for insulin!!

*ENDNOTES*

- <sup>1</sup> . Feskens, EJM, et al., Diabetes, Care, vol.14, p.935, 1991
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- <sup>3</sup> . Brand-Miller, J., et al., THE GLUCOSE REVOLUTION, p.43, Marlowe & Co., NYC, 1999
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- <sup>6</sup> . Nakagawa, S., et al., Phytotherapy Res., vol.1, p.1, 1988
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## CHAPTER 7



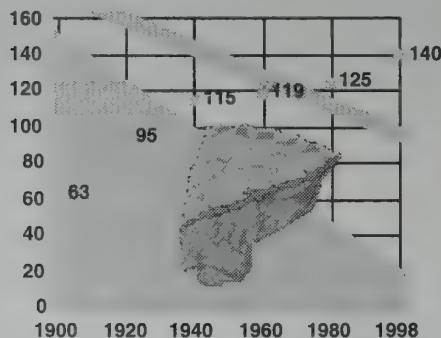
### ~~SWEETENERS~~ THE GOOD, THE BAD, AND THE UGLY

"The people think the FDA is protecting them--it isn't. What the FDA is doing and what the public thinks it's doing are as different as night and day." Former FDA Commissioner Dr. Herbert L. Ley, 1969

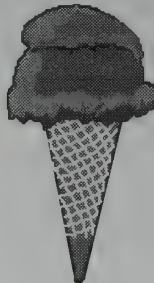
Wandering the streets of many different towns in Mexico, I was appalled at the number of people with bad teeth, all of whom were drinking colas and chewing gum. Rotting of silver or gold teeth is almost universal in many underdeveloped countries. A friend of mine who has visited the remote areas of Bolivia says the same thing. As soon as third world people have any disposable income, they spend much of their money on sugary foods which rot their teeth. Mothers would provide cola in baby bottles for their infants, resulting in the infant growing baby teeth already full of cavities. These same people then begin the cycle of developing the "diseases of civilization". This chapter is about making good decisions when it comes to choosing sweeteners to use on your food.

Sugar makes food taste good. Mother's milk is sweet. Fresh fruit is sweet. The Old Testament is full of references to the wonder of sweets.

Sugar consumption in America: pounds/person/year



source: American J. Health Promotion, 11:42, 1996



*"So I have come down to rescue them from the hand of the Egyptians and to bring them up out of that land into a good and spacious land, a land flowing with milk and honey" Exodus 3:8*

A special region of our tongue is exclusively reserved for finding and appreciating sweet foods. This makes good sense. Sweet foods are more likely to have carbohydrates for nourishment and less likely to be poisonous; such as some bitter plants. Our hunter-gatherer ancestors were hard pressed to find sweet foods, and thus their bodies were forced to make glucose out of

proteins in the body. However, once mankind developed the technology for growing and concentrating refined sugars in unimaginable levels, that sweet tooth of ours has become our enemy within. That sweet tooth leads us on to greater and greater heights of sugar intake like a moth drawn to a flame.

My first recommendation in choosing a sweetener for your food is to cut back dramatically on total sweetener intake: either caloric or non-caloric. By doing so, you will begin to taste the flavors of the food and begin to lose that sweetness craving. Once you have cut back your intake of caloric sugars from the current average of 140 pounds per year per person to a more reasonable 25 pounds per year and have removed all aspartame (NutraSweet) from your diet, then choose from the preferred sweeteners listed below.

#### *The alphabet of sugars:*

Disaccharide means 2 sugar molecules together, like table sugar, or sucrose.

Monosaccharide means 1 sugar molecule, like fructose in honey or fruits.

glucose + fructose=sucrose (table sugar)

glucose + glucose=maltose

glucose + galactose=lactose (milk sugar)

## CALORIC SWEETENERS

*contain 4 kcal per gram & can cause cavities*

**Sugar**, based upon federal laws passed after World War II to protect the California and Hawaii sugar industry, must have at least 96% of all other plant matter stripped from it in order to be called sugar. 90% of the bulk of cane sugar is fiber, protein, and other matter. All of this is lost in the sugar refining process. Therefore, turbinado sugar, brown sugar and other health food store sugars are virtually identical to white sugar in nutrient density and glycemic index.

**Barley malt** is a mild natural sweetener made from barley sprouts that is less sweet and less hazardous on blood glucose levels than other sweeteners listed here, yet very expensive.

**Blackstrap molasses** is what's left over at the bottom of the barrel from the sugar refining industry. Molasses contains the concentrated vitamins and minerals that were once in the cane sugar, though it still can create havoc with blood glucose levels and has an unusual wild taste. Has more calcium than milk, more iron than eggs, and a rich source of potassium.

**Brown sugar** can be made by blending white sugar with molasses. Little advantage over white sugar.

**Corn syrup** is commercial glucose from cornstarch with some sucrose syrup added. Very refined food with a very high glycemic index.

**Date sugar** is ground and dried dates from desert climates. Tasty whole food, but high glycemic index.

**Fructose** is found in many fruits, honey and as pure crystalline fructose. It is slowly absorbed in the intestinal tract, and requires the liver to convert fructose to glucose for body use. Glycemic index of 20. Useful for diabetics.

**Fruit juice** concentrate is usually made from grape juice and, due to a high fructose concentration, has a favorable glycemic index.

**Glucose** (aka dextrose) is the gold currency of sugar in the blood. Glucose is usually extracted from corn syrup and is rapidly absorbed from the intestines into the bloodstream. Foods high in glucose (watermelon, parsnips) or starches easily digested into glucose (like rice cakes or white bread) can create rapid and dangerous rises in blood glucose.

**Gymnema sylvestre** is a valuable herb discussed in more detail in the "supplement" chapter. I mention it here because it can block the taste of sugar in the mouth. Using gymnema tea with those occasional sweet snacks can help to reduce the amount of sugar that you crave.

**Honey** is formed when bees partially digest nectar from flowers. Honey has well documented value as an antiseptic, antibiotic, and stomach calming food. Honey from your nearby vicinity can help with allergies and is a real food vs. the "cadaver" state of most other highly refined caloric sweeteners. Honey varies in taste and content based on the hives and flowers in your region. Honey is usually about 31% glucose, 38% fructose, 18% water, 9% other sugars, and 2% sucrose. Yet, honey, in excess, can create problems with glycemic index and weight.

**Lactose** (milk sugar). About 50-90% of adults are lactose intolerant and therefore do not digest this sugar well, which then generates intestinal cramps, constipation, gas, or diarrhea. In yogurt, the lactose has been fermented by healthy bacteria into lactic acid, hence the slightly tart taste. People who are lactose intolerant can usually consume yogurt with no problem.

**Maltitol** is a relatively new sugar found in health food stores. Made from corn, maltitol has a better glycemic index than sucrose and 25% fewer calories per gram. However, it is expensive and not as sweet as table sugar.

**Maple syrup** is concentrated sweetener from the sap of sugar maple trees. It requires 30-40 gallons of sap to make 1 gallon of maple syrup. Unless the product is labelled "pure" maple syrup, then it is probably diluted with corn syrup to cut the cost. Though the flavor is unique, the glycemic index is little better than white sugar.

**Rice syrup** is made by culturing rice with digestive enzymes to break down the starch into glucose. Tasty whole food, but high glycemic index.



**Sorghum molasses** is the concentrated juice from the sorghum plant, a cereal grain. Has a lighter flavor than blackstrap molasses.

**Sucanat** is the trade name that means "SUGar CAne NATural" and comes from ground up organically grown sugar cane. 85% is sugar, with the balance of 15% being fiber, vitamins, minerals, amino acids, and molasses. Though Sucanat is a whole food, it is more expensive and provides a minor advantage in nutrient density and glycemic index vs white table sugar.

**Sucrose** is basic table sugar and merits a special discussion here. It was around 600 AD that Persians began growing and refining sugar cane into something similar to our white table sugar. Since then, sugar has been a pivotal point in history, wars, taxes, and even the Declaration of Independence of the United States of America. The immoral trade route that connected the continents of Europe, Africa, and North America for centuries involved buying slaves from Africa with rum to sell the slaves to sugar cane plantations in the Caribbean, then bring the sugar, molasses, and rum to Europe and Africa for more trade. Long before the Boston Tea Party, the Molasses Act of 1733 put British rule in the crosshairs of American colonists. At the time of the revolutionary war, the average annual consumption of molasses rum was 4 gallons per man, woman, and child. One could argue that the enthusiastic consumption of sugar and its by-products have been instrumental in bringing us the "diseases of civilization", including tuberculosis, diabetes, heart disease, many forms of cancer (which is a sugar-feeder), various mental disorders (including hyperactivity), and more. Suffice it to say that sucrose is more of a drug than a food. Consume it with all due caution.

**Turbinado sugar** is raw sugar that has been washed of its molasses content in a centrifuge. Basically, it is overpriced white sugar.

#### **CALORIC BUT NON-CARIOGENIC**

*contain 4 kcal per gram and cannot cause cavities*

**Sorbitol** is derived from corn, absorbed slowly, requires little insulin, and is used in many foods for diabetics. Probably safe, but may cause diarrhea in some sensitive individuals. Use in moderation.

**Xylitol** is extracted from birchwood chips or corn cobs. A half a century of research involving over 1500 published studies shows xylitol to be relatively safe, a healthier substitute for sugar, and chewing gum made with xylitol may reduce cavities by slowing the growth of bacteria that cause dental caries. Has a favorable glycemic index of 7. Contains 40% less calories per gram than regular white sugar, thus about 2.4 kcal per gram versus the 4 kcal per gram for white sugar. Very useful for diabetics. Available at your local health food store or online at xylitol.com. Use in recipes just like it was white sugar.

#### **NON-CALORIC SWEETENERS**

*no calories & no cavities*

**Stevia**, or stevioside, is extracted from a sweetening herb, stevia rebaudiana, and does not have either calories or a long and checkered past like many of the other artificial sweeteners listed here. Stevia was commercialized in the 1970s by a Japanese firm and still enjoys over 40% of the food sweetener market in both South America and Asia. Stevia has been used as a natural sweetener for over 1500 years in South America. The herb is actually beneficial for people with poorly regulated blood glucose, though the concentrated extract, stevioside sold in health food stores, does not retain these healing properties. The FDA created a bizarre and suspicious import ban on stevia for years, which was recently lifted. Stevioside and stevia are the safest and most recommended of the artificial sweeteners available today.

**Splenda**, or sucralose, is a relatively new artificial sweetener invented in 1976, patented by a subsidiary of Johnson & Johnson, and approved by the Food and Drug Administration in 1998. Splenda is made from sugar, is stable in cooking, tastes like sugar, but cannot cause dental caries and does not raise blood sugar. Splenda has a molecule that is slightly different in shape from normal table sugar and has a chlorine atom added. Splenda is available in health food stores or grocery stores. Preliminary evidence indicates that Splenda is relatively safe, especially compared to aspartame.

**Tagatose** is a relative newcomer to the crowded field of sweeteners. This product has been researched for about 10 years, is FDA approved as a GRAS (Generally Regarded As Safe) food product, and

is a minor chemical variation (isomer) of fructose. Tagatose will not cause cavities, has fewer calories than comparable weight of white sugar (1.5 vs. 4 kcal/gram), has a low glycemic index, and is considered a prebiotic (meaning that it feeds the friendly bacteria in the large intestines to make a healthier gut and immune system).<sup>1</sup>

**Aspartame** provides us with a classical example of how the FDA is not protecting the American consumer, but rather creating extremely profitable monopolies for those who can afford the \$500 million investment required to pass the "safety tests". Aspartame, Equal or NutraSweet (trademark of the NutraSweet Company) is consumed by over 100 million people in the US alone. It is 180 times sweeter than table sugar, is included in over 1200 products in America, and was approved by the FDA in 1981. Over a billion pounds of aspartame are used annually in the US. I will spare you the detailed accounts of how aspartame has been linked to our 250% rise in brain cancer since its approval<sup>2</sup>, or the double blind study by psychiatrists that was halted because aspartame created such blatant depression in the test subjects<sup>3</sup>, or the study showing that aspartame caused headaches in a double blind trial<sup>4</sup>, or the fact that of the 2800 FDA approved food additives, 80% of all complaints are regarding aspartame.<sup>5</sup>

Aspartame breaks down after long term storage, heating, and in the body into wood alcohol (methyl alcohol) and dangerous isomers of the amino acid phenylalanine. Researcher Richard Wurtman, MD of MIT cautioned the FDA on the approval of aspartame, noting the rise in brain tumors among animals fed aspartame. Along with the meteoric rise in the consumption of aspartame has come a parallel rise in the incidence of both obesity and morbid obesity (people who are dangerously overweight). I strongly discourage the use of aspartame. I would rather have a diabetic judiciously use white table sugar than use aspartame.

**Saccharin** is a chemical derivative of petroleum and toluene, a solvent used to reduce the knocking in automobile engines.<sup>6</sup> Saccharin was found to increase the incidence of bladder cancer in animals, but under pressure from lobbyists, the FDA allowed saccharin to remain on the market with a warning label. I discourage the use of saccharin, but consider it safer than aspartame.

#### **PATIENT PROFILE**

T.M. was a truck driver who lived on fast food, gravy, and beer. When he began making frequent bathroom breaks while driving his big rig, he thought something might be wrong with his health. His doctor found his blood glucose levels to be around 400 mg/dl, yet his insulin levels were adequate. He told me that he would make some compromises in the dietary department if I could suggest some nutrition supplements that would help bring down his blood glucose. I suggested 400 mg of magnesium, 400 mcg of chromium picolinate, 200 mg Gymnema sylvestre herb, and a few other nutrients, like vitamin E and C. His diet improved, but was far from "pristine" in the no fat/no sugar categories. Yet, his blood glucose went down to fasting levels of 100-150 mg/dl - a major improvement which allowed him to get back on the road. His wife of 27 years was pleased to see his health improved and have him back on the road again, since he had tried to rearrange her entire kitchen while he was recuperating at home.

#### **ENDNOTES**

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<sup>2</sup> . Olney, JW, et al., J.Neuropathol.Exp.Neurol., vol.55, p.1115, 1996

<sup>3</sup> . Walton, RG, et al., Biol.Psychiatry, vol.34, p.13, 1993

<sup>4</sup> . VanDen Eeden, SK, et al., Neurology, vol.44, p.1787, Oct.1994

<sup>5</sup> . Roberts, HJ, ASPARTAME: IS IT SAFE?, p.12, Charles Press, Philadelphia, 1990

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## CHAPTER 8



### **-NUTRITION SUPPLEMENTS- TO REVERSE DIABETES**

#### **VITAMINS ARE ESSENTIAL FOR DIABETICS**

"In the US, the incidence of diabetes has increased proportionately with the per capita consumption of sugar. In the heating and recrystallization of the natural sugar cane, something is altered which leaves the refined product a dangerous foodstuff."

- Dr. Frederick Banting, Nobel Prize winner, discoverer of insulin, 1929

There are now over 20,000 scientific studies showing the benefits of nutrition supplements in humans. Concentrated pills, powders, and tinctures of vitamins, minerals, herbs, fatty acids, glandulars, food extracts, and homeopathic preparations can go a long way toward bringing the diabetic out of a "survival" poor health status and moving toward a "thriving" health status.

Many doctors still parrot the old adage about supplements: "If you just eat a good diet, then you don't need them." Yet the Standard American Diet (SAD) consists of 60% of the calories from nutrient depleted fat and sugar. Based on government surveys, 92% of all Americans do not get the RDA for all essential nutrients. And, as you will read in this chapter, diabetics have an elevated need for various nutrients.

Nutrition supplements have moved from a controversial status in the 1980s to a very respectable

#### **IMPROVING INSULIN SENSITIVITY IN CELLS**

Magnesium supplementation improved insulin response in aging non-obese human subjects. Paolisso, G., Am.J.Clin.Nutr., vol.55, p.1161, 1992

Vitamin E (900 mg/d) improves insulin action in healthy subjects & type 2 diabetics. Paolisso, G., Am.J.Clin.Nutr., vol.57, p.650, 1993

CLA normalizes impaired glucose tolerance and reduces insulin in pre-diabetic rat. Houseknecht, Biochem.Biophys.Res.Comm 244,678,1998

Vanadium (100 mg/d vanadyl sulfate) improves insulin sensitivity in type 2 diabetics. Halberstam, M., Diabetes, 45, 659, 1996

Chromium decreases insulin resistance at a fraction of drug cost Lindsay, LA, Med.Hypotheses, vol.49, p.47, 1997

Chromium suppl (1000 mcg/d) improved glucose and insulin variables in type 2 diabetics Anderson, RA, Diabetes, vol.46, p.1786, 1997

Biotin improves hyperglycemia in animals J.Nutr.Sci.Vitam.42,517,1996

Fish oil reversed hyperinsulinemic animals. J.Nutr.126,1951, 1996

Lipoic acid supplementation improves insulin sensitivity in type 2 diabetics. Jacob, S., Free Rad.Biol.Med., 27, 3, 309, 1999

status in the 1990s. However, the official position of most governmental agencies, like the Food and Drug Administration is basically: "If you eat a good diet, then you don't need nutrition supplements. And furthermore, if nutrition supplements actually have a therapeutic benefit, then they should be regulated by the FDA and a physician's prescription." Fortunately, the Congressional Dietary Supplement Health and Education Act (DSHEA) of 1994 mandated that the FDA must not restrict access to supplements unless the FDA can prove that they are harmful. And supplements are extremely safe, especially when compared to the likelihood of the diabetic developing some disastrous complication as a result of not having enough of some nutrient.

#### **NUTRITION SUPPLEMENTS ARE SAFE**

While 400,000 Americans die each year as a consequence of tobacco use, and another 125,000 die from the side effects of using prescription medication, there have been NO DEATHS from the use of nutrition supplements in the past 5 years. Ephedra is an herbal extract which contains a speed-like compound that may have been responsible for several deaths in overweight, sedentary, and unhealthy individuals. Nutrition supplements are much safer than many risks faced by Americans.

The following data was reported in the New York Academy of Sciences textbook **MICRONUTRIENTS AND IMMUNE FUNCTION** (vol.587, p.257, 1990) by John Hathcock, PhD, a Food and Drug Administration toxicologist,

>Vitamin A toxicity may start as low as 25,000 iu/day (5 times USRDA) in people with impaired liver function via drugs, hepatitis, or protein malnutrition. Otherwise, toxicity for A begins at several hundred thousand iu/day.

>Beta-carotene given at 180 mg/day (300,000 iu or 60 times USRDA for vitamin A) for extended periods produced no toxicity, but mild carotenemia (orange pigmentation of skin).

>Vitamin E at 300 iu/day (10 times USRDA) can trigger nausea, fatigue, and headaches in sensitive individuals. Otherwise, few side effects are seen at up to 3,200 iu/day.

>B-6 may induce a reversible sensory neuropathy at doses of as low as 300 mg/day in some sensitive individuals. Toxic threshold usually begins at 2000 mg for most individuals.

>Vitamin C may induce mild and transient gastro-intestinal distress in some sensitive individuals at doses of 1000 mg (16 times USRDA). Otherwise, toxicity is very rare at even high doses of vitamin C intake.

>Zinc supplements at 300 mg (20 times USRDA) have been found to impair immune functions and serum lipid profile.

>Iron intake at 100 mg/day (6 times USRDA) will cause iron storage disease in 80% of population. The "window of efficacy" on iron is probably more narrow than with other nutrients.

>Copper can be toxic, though dose is probably related to the ratio with other trace minerals.

>Selenium can be toxic at 1-5 mg/kg body weight intake. This would equate to 65 mg/day for the average adult, which is 1100 times the amount necessary for good health. Some sensitive individuals may develop toxicity at 1000 mcg/day.

>Manganese can be toxic, though little specific information can be provided for humans.

The bottom line is: Nutrition supplements are very safe, especially at the dosages mentioned in this chapter. While normal healthy adults who eat an excellent diet probably can get along without nutrition supplements, diabetics need supplements even if they are eating a very good diet.

You may wish to purchase any or all of the following supplements either at your local health food store or through the many mail order or internet companies listed in the appendix. Or for a convenient and cost-effective way of taking many supplements in a "one stop shopping" packet, you may wish to consider ImmunoPower EZ (800-247-6553, or ImmunoPower.com).

## **FIBER 40-50 GRAMS/DAY**

Based upon a huge amount of human and animal studies, it could be that diabetes is more related to a deficiency of dietary fiber than any other nutrition substance.<sup>1</sup> Fiber is indigestible plant food matter. Because fiber cannot be digested in the human gut, it stays in the intestines to slow down the absorption of glucose into the bloodstream, while it simultaneously absorbs excess fat and cholesterol to carry these potential trouble makers out of the system.

There are two main types of fiber: soluble (in water) and insoluble. Soluble fibers form a gelatin-like mass in the intestines. Examples of soluble fibers include hemicelluloses, mucilages, gums, and pectins; such as found in apples, carrots, oats, and beans. Insoluble fibers can help with other conditions, such as weight loss, but are not as helpful in slowing down the absorption of glucose to control diabetes. Dr. James Anderson at the University of Kentucky has spent 2 decades studying the various dietary approaches to Type 2 diabetes that can be of the most benefit. A diet rich in soluble fiber and legumes improves all aspects of diabetes.<sup>2</sup> For example, Dr. David Jenkins, the developer of the glycemic index chart, found that diabetics who consumed between 14 to 26 grams of guar gum soluble fiber required less insulin and had better control of their blood glucose levels.<sup>3</sup>

Consume around 50 grams of fiber daily, which is a 250% increase over the standard low fiber American diet. In addition to the many foods which contribute significant amounts of soluble fiber to the diabetic diet, nutrition supplements found in your health food store include: glucomannan, guar gum, oat gum, pea fiber, pectin, and psyllium. Some remarkably useful nutrition supplements in this category include Perfect 7 (800-767-4776).



## VITAMINS

### VITAMIN C 500-2000 MG/DAY

Vitamin C is a molecule that looks very similar to glucose. Not surprisingly, it requires insulin to get vitamin C into most body cells. Also, a high intake of vitamin C can create abnormal readings on everything from urine to blood glucose measurements. So, be aware that supplements of vitamin C can reduce complications in diabetes, but may increase the chances for false readings of body sugar levels in both blood and urine.

Most diabetics have a deficiency of vitamin C in spite of consuming the Recommended Dietary Allowance (RDA) level.<sup>4</sup> This deficiency of vitamin C will oftentimes lead to symptoms of scurvy, which include reduced immunity against infections and increased tendency to bleed from capillary permeability, poor wound healing, vascular disease, and high cholesterol. Supplements of 2000 milligrams daily of vitamin C in human diabetics has been shown to slow down the "tanning" or glycosylation of proteins in the blood, while also helping the body to avoid the toxic accumulation of sorbitol inside the cells.<sup>5</sup> Because of the serious toxicity of sorbitol buildup in the diabetic cells, pharmaceutical companies have developed a drug to help purge sorbitol from the cells (aldose reductase inhibitors), yet in a clinical trial vitamin C was superior to the drug at both reducing sorbitol in the cells and being without side effects.

### NIACIN (B-3) 500-1000 MG/DAY

Niacin is a key nutrient in the burning of calories as well as the making of the Glucose Tolerance Factor that helps insulin move glucose through the cell membrane. The best tolerated form of niacin in the reduction of diabetic complications is inositol hexaniacinate, which has been helpful both in reducing fats in the blood for all diabetics and sometimes even reversing early onset Type 1 diabetes. Yes, you read that correctly. It used to be thought that once the pancreas had been damaged and Type 1 diabetes sets in, that person will forever be an insulin dependent diabetic. Yet 10 studies have investigated the value of niacin supplements to help reverse early onset Type 1 diabetes. Most of these studies have shown a positive result in lowering insulin requirements, improved pancreatic beta cell function, and overall enhancement of blood glucose regulation. In the patients who received a complete remission--their Type 1 diabetes was cured--those most likely to get this gift were older and had more pancreatic function (based on fasting C-peptide in the blood).<sup>6</sup> It seems that in younger people who have had destruction of the beta cells of the pancreas, the auto-immune attack is so swift and merciless, that little is left of the pancreas to resurrect.

Type 2 diabetics using 1800 mg to 3000 mg of inositol hexaniacinate daily had an average of 18% reduction in total cholesterol, 26% reduction in triglycerides, and 30% increase in the heart protective HDL cholesterol.

### BIOTIN 9 MG/DAY

Biotin is a B-vitamin that is very involved in energy metabolism. Biotin supplements increase insulin sensitivity, while also increasing the activity of a liver enzyme (glucokinase) that helps the body metabolize glucose. In a study of Type 1 diabetics, 16 mg/day of biotin significantly lowered fasting blood glucose levels and improved overall blood glucose control. Type 2 diabetics received equally impressive results using 9 mg/day of biotin.<sup>7</sup> Biotin supplements must be mentioned to your physician, because diabetics typically can sometimes lower their medication requirements by using biotin. Biotin is one of the more expensive of all vitamins.

### B-6 (PYRIDOXINE) 50-100 MG

Vitamin B-6 is crucial for the manufacturing of insulin and the production of all proteins in the body. Supplements of B-6 have been very effective at slowing and reversing the neuropathies found in many diabetics.<sup>8</sup> B-6 also prevents the glycosylation, or "tanning", of proteins that occurs when too much glucose is lingering in the bloodstream. In a study with 14 women with gestational diabetes, 100 mg/day of B-6 cured 12 (85%) of the subjects.<sup>9</sup>

**B-12: 300-3000 MCG/DAY**

Vitamin B-12 (along with folacin) is involved in new cell growth. The deficiency symptoms of B-12 include numbness of the feet, tingling and burning sensation, "pins and needles" feeling--which are the same sensations of diabetic neuropathy. Supplements of B-12 have had some success in reversing neuropathy<sup>10</sup> and retinopathy in diabetics.<sup>11</sup> No one knows whether these super high levels (300 times the RDA) are correcting imbalances in the cells of diabetics or filling in deficiencies.

**E (D-ALPHA TOCOPHEROL) 400-2000 IU/DAY (10 MG= 15 IU OF VITAMIN E)**

Vitamin E is the primary fat soluble antioxidant in the bloodstream. Since diabetics are prone toward excess levels of "rusting", or oxidized, fats in the blood and 80% of diabetics die from heart disease, vitamin E can become a valuable shield in the storm of free radicals being generated in the body of the diabetic patient. Remember, the insulin receptors on the cell membrane are made from fats, which are rusting at a higher rate in diabetics.

In one study 10 healthy controls and 15 Type 2 diabetics took 1350 IU (international units) of vitamin E daily with substantial improvements in ALL subjects, especially the diabetics, in glucose metabolism and insulin action.<sup>12</sup> Vitamin E may also prevent diabetes. One study followed 944 men, ages 42-60, for four years. 45 of these men developed diabetes. Those men who had the lowest levels of vitamin E in the blood had a 400% increase in the risk of developing Type 2 diabetes.<sup>13</sup>

**MINERALS****CHROMIUM 200-800 MICROGRAMS**

Long ago, our ancestors would fertilize their fields with compost and manure. This "full spectrum" fertilization concept kept trace minerals, like chromium, in the soil and in the food supply. Today, modern agri-business does not add chromium to the soil and, hence, each time we harvest a crop, there is proportionately less amounts of chromium both in the soil and the food supply. We then take what precious chromium is in the food and strip it out in the milling of grains and the refining of sugar. While the Food and Nutrition Board of the National Academy of Sciences considers 50-200 micrograms daily of chromium to be adequate, 90% of Americans do not consume at least 50 mcg of chromium per day.

Chromium plays a pivotal role in the crucial molecule "Glucose Tolerance Factor" which, along with insulin, "opens the doors" of the cell membrane to allow glucose into the cell for fuel. Chromium deficiency is common in America, even by conservative standards, and plays a major role in the growing incidence of Type 2 diabetes in this country.<sup>14</sup> Chromium supplements seem to benefit diabetics who are chromium deficient, which is the majority.

In one large placebo-controlled trial examining the role of chromium supplements in Type 2 diabetes, 60 diabetics were given placebo (inert ingredients), 60 others were given 200 mcg of chromium daily, and the third group of 60 diabetics were given 1000 mcg of chromium daily. All patients continued their medication and medical monitoring of their condition. Chromium supplements helped regulate fasting glucose, reduce glycosylated hemoglobin, insulin values and total cholesterol--all in a dose-dependent fashion, meaning that 1000 mcg of chromium worked better than the 200 mcg dosage.

Best food sources of chromium are foods grown on chromium rich soil, which is a "hit or miss" concept because most of us don't know where our food is grown. Liver, meat, cheese, legumes, beans, peas, whole grains and molasses (but not white flour or white sugar) are good sources of chromium. Far and away the richest source of the active form of chromium, Glucose Tolerance Factor, is brewer's yeast. See the "superfood" chapter.

**MAGNESIUM 300-600 MG**

The body is a rich soup of minerals with one of the more important and multi-talented minerals being magnesium. Magnesium is involved in each of the trillions of energy reactions that occur daily to generate ATP in the body as well as nerve and muscle function. Low intake of magnesium is a major risk factor in the deterioration of diabetic complications, especially retinopathy.<sup>15</sup>



The USRDA for magnesium for males is 400 milligrams daily. Twice that amount (800 mg) would be a good target for diabetics. The average American consumes 143-266 mg daily of magnesium due to our highly refined food supply. Best food sources of magnesium are soy, legumes, seeds, nuts, whole grains, and green leafy vegetables. For an inexpensive magnesium supplement, take 1/4 to 1/2 teaspoon of food grade (USP) Epsom salts (magnesium sulfate) from your pharmacy. Cost is less than a penny per day.

### **POTASSIUM 5-6 GRAMS**

With sodium being the primary mineral outside of all cell membranes, potassium is the major mineral inside all cell membranes. The electrical charge from these minerals generates what is called "membrane potential" or the energy that constitutes the batteries in each of our cells. One of the primary theories about why Type 2 diabetics develop insulin resistance is that the sodium/potassium membrane potential in the cell is off kilter, leading to insulin not being able to open the doors in the cell membrane.

A high potassium diet has been shown to lower the risk for diabetes, cancer, heart disease, and improves glucose tolerance. Plant foods like fruits, vegetables, whole grains, and legumes, are the best sources of potassium. Potassium supplements are regulated by the FDA, since excess potassium can become hazardous for the ailing kidneys of advanced diabetic patients. Potassium supplements in diabetics with healthy kidneys can come from physician prescription or by using salt substitutes, which are potassium chloride.

**CAUTION:** advised in diabetics with kidney complications

### **SULFUR (METHYL SULFONYL METHANE)**

Sulfur is one of the most important yet ignored minerals in human nutrition. While the average human body has 6 times more sulfur than magnesium, most nutrition textbooks only give brief and passing reference to sulfur.<sup>16</sup> Sulfur is your "steel rebar" in structural proteins in the body, which is why there is more sulfur in a meat eater's diet of flesh than a vegetarian diet. Sulfur is also a crucial mineral for detoxification and improving cell membrane permeability. Most agri-businesses ignore the need to fertilize the soil with sulfur, hence each time we harvest the crops, we have progressively less sulfur in our food supply. Methylsulfonylmethane, or MSM, is an organically bound form of sulfur which is better for your body. Inorganic forms of sulfur, such as the preservative sulfites found in dried fruit and wine can be harmful and do not contribute to the body's need for organically bound sulfur.

Algae and phytoplankton in the ocean and ponds everywhere take in inorganic sulfur and release a volatile vapor, dimethyl sulfide, which rises in the atmosphere and is converted into DMSO by the action of the sun's ultra-violet light. Add an oxygen atom to DMSO and you have DMSO<sub>2</sub>, which is MSM.<sup>17</sup> These sulfur-bearing compounds then mix with rain clouds and scatter over the world to provide organic sulfur for plants. On an ecological note, sulfites and sulfates from cars and factories can react in the atmosphere to form sulfuric acid, which makes acid rain that has been devastating forests around the world.

MSM is found in small amounts in fresh plant foods, but is easily lost in storage, cooking, and processing. Hence, most of us get very little MSM in the diet. MSM has the health advantages of DMSO without giving the user the characteristic "garlic breath" that is almost immediately apparent when rubbing DMSO on the skin. MSM is very safe, since it is found in small amounts in fresh produce and is, therefore, either used or excreted by the body. Since MSM is a patented compound, it is referred to in scientific literature as "polar solvents" or "dimethyl sulfone".

Sulfur is a critical ingredient in some of the healthiest foods on earth: garlic, beans, eggs, cabbage, broccoli, and red peppers. Sulfur used to be called "brimstone", and was a threat of sorts from the "fire and brimstone" preachers of old. Flowers of sulfur is a yellow powder that our grandparents would sometimes sprinkle in their shoes to help ward off rheumatoid arthritis.

MSM may help diabetic patients in the following ways:

- ♥ Blood glucose regulation. Insulin contains several sulfur atoms to give it a unique three dimensional shape and function in regulating blood glucose. People who are deficient in sulfur will probably develop diabetic-like symptoms.

- ♥ Regular bowel movements. According to the "grandfather" of DMSO, Dr. Stanley Jacobs, MSM seems to induce regularity and treat constipation without side effects.<sup>18</sup>
- ♥ Immune regulation. There is some evidence that DMSO and its metabolite, dimethyl sulfone, may help to downregulate an over reactive immune system in autoimmune diseases.<sup>19</sup>
- ♥ Membrane fluidity. Since sulfur is a crucial component of every cell membrane in every form of life on earth, some experts have speculated that low intake of sulfur can lead to defective cell membrane functions. Cell membranes are the "gate keepers", with the assignment of expelling toxins and bringing in essential nutrients. If the cell membrane fails in either the intake or output processes, we can have a cell that begins to reject insulin or glucose and begins the slide down the slippery slope of diabetes.

## MANGANESE

Manganese deficient animals develop low insulin output, problems with the connective tissue and processing of fats. Recommended intake is 2-5 milligrams daily for adults, with over half the female population consuming less than adequate amounts of manganese.<sup>20</sup> Best food sources of manganese are whole grains, nuts and fruits grown on manganese rich (properly fertilized) soil. There are at least 3 different minerals, including manganese, copper, and zinc, that play a role in variations of the critical antioxidant enzyme system SOD.

## ZINC 10-60 MG/DAY

Zinc is the most multi-talented mineral in the body, participating in everything from sexual development, to immunity, to maintenance of nerve tissue, to the zinc-dependent antioxidant enzyme SOD (superoxide dismutase). The average American consumes about 10 milligrams of zinc daily, which is well shy of the 15 mg USRDA. Best food sources of zinc include shell fish, organ meats, meat, fish, pumpkin seeds, ginger root, nuts and seeds.

Zinc is a crucial mineral for optimal immune functioning. Reduced zinc levels and diabetes are both common in the elderly. Loss of appetite is one of the first symptoms of zinc deficiency

**SAFETY ISSUES.** Supplements of zinc should be in the 10-60 mg/day range, since doses of 150 mg/day have been shown to trigger copper deficiency and depress the cardio-protective HDL-cholesterol.

## VANADIUM

Vanadium is not added back to the soil in agri-business, and hence may be missing from the American diet, which typically contains 10-60 micrograms daily of vanadium.<sup>21</sup> When non-insulin dependent diabetics were supplemented with 100 milligrams daily (100,000 micrograms) of vanadyl sulfate, blood glucose levels dropped by 14%.<sup>22</sup> Vanadium in the form of vanadyl sulfate has shown promise in helping to control rises in blood glucose in human diabetics.<sup>23</sup> Toxicity may begin at 13 milligrams (13,000 micrograms) of vanadium daily. Best food sources of vanadium include mushrooms, shellfish, dill, parsley and black pepper.

## ESSENTIAL FATTY ACIDS

### FISH & FLAX

Not all fat is created equally. Fat-phobic Americans have lost sight of the fact that there are good, bad and ugly fats.

DIETARY FATS		
GOOD	BAD	UGLY
flax, olive, canola, fish, primrose, borage, sesame, MCT, lecithin, rice bran, rapeseed, hemp	too much fat of any kind, especially in a deficiency state of vitamin E (protects against fat "rusting")	hydrogenated (lard), or oxidized (from fast food deep fryers), or not enough vit. E or too much sugar



When the Senate Diet Goals were released by a blue ribbon panel of nutrition experts in 1977, they included the recommendation to decrease fat intake from 40% of calories to 30%. Yet, experts then looked at the Greenland Eskimos, who get 60% of their calories from fat and practically no dietary fiber, yet mysteriously had no diabetes, cancer, or heart disease. Three factors saved these people from an otherwise disastrous diet:

- 1) genetic adaption, at least 40,000 years to adjust to this uniquely skewed diet
- 2) fish oil, which contains a very special and highly unsaturated fat, eicosapentaenoic acid, or EPA for short.
- 3) no sugar in the diet, which helps the body make PGE-1, a healthy prostaglandin

EPA is, essentially, Nature's anti-freeze. In the arctic regions of the world, the ocean temperature drops to below freezing, yet water-based life will explode at that temperature, like leaving out a water balloon on a sub-freezing night. So Nature provides the algae in the ocean with this special fat, EPA, that prevents freezing and bursting at low temperatures. Smaller fish eat the algae, and bigger fish eat the smaller fish, until we have major concentrations of EPA in cold water fish, like cod, salmon, mackerel, tuna, and sardines. Much of the fat in seals and whales that were consumed by the Greenland Eskimos was rich in EPA, which provided these people with extraordinary protection against many diseases.

#### **EPA may help the diabetic patient:**

⇒**Changes membrane fluidity.** Cell membranes contain fats which are a direct reflection from our diet, including the unnatural hydrogenated fats found in Crisco and Pop Tarts. When we are talking about dietary fats, the old saying is literally true, "you are what you eat." Cell membranes that are fluid, flexible and allow the proper nutrients, like glucose, to pass into the cell will improve overall wellness. Cells that are flexible with EPA can squeeze down narrow capillaries to feed the distant tissue. Cells that are rigid with too much saturated or hydrogenated fat or having been "tanned" from too much sugar in the blood will not be able to move down narrow capillaries, like a car trying to get down a hotel hallway.

⇒**Increase prostaglandin E-1**, a.k.a. PGE-1, which favors reducing the stickiness of cells for less risk of heart disease or stroke. PGE-1 also bolsters immune functions, dilates blood vessels, and elevates production of estrogen receptors.

### **BORAGE AND EVENING PRIMROSE**

Our ancestors consumed a diet of range fed animals who grazed on wild grasses, weeds, grains, nuts and seeds. In these foods is a wide assortment of valuable fatty acids, including gamma linolenic acid (GLA), which is richly concentrated in the evening primrose and borage plants. Intake of GLA in modern Americans has dropped off substantially with the consumption of corn-fed beef, which is rich in linoleic acid that generates the tumor-promoting eicosanoid of arachidonic acid. The reason why range-fed lean buffalo was good for Native Americans, yet corn-fed high fat beef is not so good for modern Americans is primarily the quality and quantity of fats in these two animals. A ratio of approximately 4:1 of EPA to GLA is very favorable for making cell membranes that accept insulin and glucose in healthy fashion. Diabetics probably lose the ability to make optimal amounts of GLA in the body, which makes supplements essential.

We are able to make less GLA internally as we age, are exposed to stress and toxins, become compromised by disease, and eat hydrogenated fats--which describes millions of Americans. GLA in the diet helps to drive PGE-1, mentioned above, which is good.

### **CLA**

Due to the 9/11 tragedy, Americans who fly may eventually need to have a fingerprint or iris scan to insure identity before getting on an airplane. The iris scan shows us that we each are very unique. "Close" does not count. The same goes for fats in our diet. The right fats have very specific three dimensional structures to allow prostaglandin synthesis and fully functioning "gatekeeper" cell membranes. "Close" does not count. The difference between a man and a woman lies, partly, in the estrogen versus androgen hormones that dominate each sex. This difference between these molecules is one OH group. Tiny differences in chemical structure or even shape can make a huge difference in the function of that molecule.

Americans often consume fats that are unhealthy, like hydrogenated fats, and are deficient in valuable fats, like CLA. A tiny difference in molecular structure, just like your iris scan, can make a huge difference in whether this fat will help or hinder your cellular machinery.

## CONJUGATED LINOLEIC ACID (CLA)

### a promising anti-diabetic nutrient

- ☞ isomers of linoleic acid produced by bacteria in gut of ruminants
- ☞ only dietary sources are milk and meat of ruminants
- ☞ anticarcinogenesis (50%↓ br.ca. animals), ↑apoptosis
- ☞ immunomodulation: ↓cachexia, ↑cell mediated response
- ☞ body composition alteration: ↑lean mass, ↓fat mass
- ☞ antiatherosclerosis
- ☞ normalizes impaired glucose tolerance in diabetic rats
- ☞ antioxidant? reduced malondialdehyde, lipid peroxides
- ☞ ↑vitamin A status

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Conjugated linoleic acid, or CLA, is a collection of unique 18 carbon fatty acids found primarily in the meat and milk of grazing animals, like cows, sheep, goats, deer, buffalo, etc. CLA is one of the more exciting recent developments in therapeutic fats. There is 300-400% more CLA in spring and summer milk and most Australian dairy products due to the availability of fresh green pasture land, which augments CLA content in the milk and fat of grazing animals.<sup>24</sup>

CLA makes a good argument for humans consuming an omnivorous diet, since there is far more CLA, carnitine, EPA, taurine, and lipoic acid in animal foods than plants foods. Dr. Weston Price toured the world in the 1930s with his nurse-wife visiting numerous cultures and found many

different diets--but he never found a group of people who were complete vegan. All of our ancestors ate some animal food. Maybe CLA is one of the nutrients that we need from a healthy mixed diet.

Bacteria in the gut of ruminants, like cows, sheep, deer and buffalo, can produce CLA. Yet there is more CLA in grilled beef than raw beef, so the cooking process also enhances CLA content.<sup>25</sup> CLA may be able to help the diabetic patient through:

- ♥ Improve glucose and insulin levels. CLA manages to also make cells more sensitive to insulin, thus lowering insulin requirements and blood glucose levels. These researchers from Penn State and Purdue boldly state: "CLA may prove to be an important therapy for the prevention and treatment of non-insulin dependent diabetes mellitus."<sup>26</sup>
- ♥ Antioxidant. There is a large and growing list of non-essential dietary antioxidants, including CLA, ellagic acid, curcumin, quercetin, and epicatechin, which have shown remarkable abilities to slow down the oxidative damage, or the "rusting" that occurs constantly in most diabetics.<sup>27</sup>

Basically, CLA is one of the more promising, non-toxic, inexpensive, anti-cancer, anti-heart disease, anti-diabetes nutrients to come along in the history of nutrition science.

**QUASI-VITAMINS** are "social climber" nutrients that fall into a gray zone of nutrition, not yet considered essential for survival by the National Academy of Sciences, yet considered valuable for optimal health. Diabetics may need quasi-vitamins in order to prevent or slow down the common complications of the disease.

## **LIPIC ACID 100-500 MG**

Lipoic acid works with pyruvate and acetyl CoA in a critical point in energy metabolism.<sup>28</sup> Partly because of this pivotal job in generating ATP, lipoic acid becomes an incredibly multi-talented nutrient. Though lipoic acid is not considered an essential nutrient yet, as humans age we produce less and less of lipoic acid internally.<sup>29</sup> Because of its unique size and chemical structure, lipoic acid works as an antioxidant that can penetrate both fat soluble (like vitamin E) and water soluble (like vitamin C) portions of the body.<sup>30</sup> This gives lipoic acid access to virtually the entire body, whereas most antioxidants only protect isolated areas of the body.



Lipoic acid also works to improve the efficiency of insulin by allowing blood glucose into the cells. Animal studies showed that supplements of lipoic acid increased insulin sensitivity by 30-50% and reduced plasma insulin and free fatty acids by 15-17%.<sup>31</sup>

Lipoic acid prevents “glycation” or glycosylation, which means the binding of sugar molecules to important proteins in the bloodstream, cell membrane, nerve tissue, etc. Glycation is a disastrous “tanning” that occurs, not unlike turning soft cow skin into hard leather in the tanning process. These new proteins that are bound to sugars do not have the same abilities as before the glycation process. Supplements of lipoic acid have been found to reverse the peripheral neuropathy from diabetes in as little as 3 weeks.<sup>32</sup> Lipoic acid improves blood flow to the nerves, which then improves nerve conduction.<sup>33</sup>

Lipoic acid increases the available levels of other antioxidants in the body, like vitamin E<sup>34</sup> and glutathione.<sup>35</sup> While there are many antioxidants found in a healthy diet and produced in the body (like uric acid), lipoic acid is the only antioxidant that meets the “wish list” of Dr. Lester Packer of the University of California at Berkeley. Able to:

- ⇒ neutralize free radicals
- ⇒ be rapidly absorbed and quickly utilized by the body cells
- ⇒ be able to enhance the action of other antioxidants
- ⇒ be concentrated both inside and outside cells and cell membranes
- ⇒ promote normal gene expression
- ⇒ chelate metal ions, or drag toxic minerals out of the body.<sup>36</sup>

## QUERCETIN

While a review paper from 1983 estimated that about 500 varieties of bioflavonoids existed in nature<sup>37</sup>, more current estimates go as high as 20,000 different bioflavonoid compounds. Bioflavonoids are basically accessory factors used by plants to assist in photosynthesis and reduce the damaging effects from the sun. Best sources of bioflavonoids are citrus, berries, onions, parsley, legumes, green tea and bee pollen. The average Western diet contains somewhere between 150 mg/day<sup>38</sup> and 1000 mg/day<sup>39</sup> of bioflavonoids, with about 25 mg/day of quercetin. Best source of quercetin is the white rind in citrus fruits and onions. Quercetin has many talents that may help the diabetic patient:<sup>40</sup>

- ◇ Inhibits inflammation, by reducing histamine release
- ◇ Potent antioxidant
- ◇ Inhibits capillary fragility which protects connective tissue against breakdown
- ◇ Reduces the “stickiness” of cells, or aggregation, thus delaying stroke or heart disease

Quercetin has taught scientists a great lesson. Quercetin was considered a possible carcinogen based upon the Ames in vitro test in 1977, since it caused mutagenic changes to cells. Yet, new studies show that quercetin is not a carcinogen, but may be one of the most potent anticarcinogens in nature.<sup>41</sup>

One problem for diabetic patients can be inflammation, or swelling of tissue. Quercetin can help reduce swelling by helping to produce anti-inflammatory prostaglandins.<sup>42</sup> Quercetin inhibits the release of histamine from mast cells, thus reducing allergic reactions.<sup>43</sup> Quercetin also helps to stabilize cell membranes, decrease lipid peroxidation and inhibit the breakdown of connective tissue (collagen) by hyaluronidase (one of the ways that cancer spreads).<sup>44</sup>

## GRAPE SEED EXTRACT 50 MG

Scurvy (deficiency of vitamin C) has played a huge role in human history. Humans roamed the oceans of the world throughout the 15th through 19th century, often losing up to half of the people on board ship due to scurvy. The English physician, James Lind, discovered that limes cured scurvy in 1747 and began to wind down the death toll from scurvy, while also labelling the English sailors as “limeys”. In 1930, Nobel prize winner, Albert Szent-Gyorgy, MD, PhD, isolated pure vitamin C. Ironically, the pure white crystalline vitamin C that Dr. Szent-Gyorgy isolated would not cure bleeding gums, whereas the crude brown mixture of citrus extract would. The difference between these two mixtures was “bioflavonoids”, which include over 20,000 different chemical compounds that generally assist chlorophyll in photosynthesis and protect the plant

from the harmful effects of the sun's radiation. The rainbow colors of fall foliage are Nature's art exhibit of bioflavonoids and carotenoids.

Some of the main categories of bioflavonoids include:

- ◇ anthocyanins; deep purple compounds found in black grapes, beets, red onions, and berries
- ◇ catechins and epigallocatechin, which are polyphenols found in green tea and grapes
- ◇ ellagic acid, a true anti-cancer compound found in cranberries, raspberries, and other berries.
- ◇ flavones, found in citrus fruit, red grapes and green beans
- ◇ flavanols, such as quercetin, myricetin, found in kale, spinach, onions, apples, and black tea
- ◇ flavanones, such as hesperidin and naringen found in citrus fruits of grapefruit, oranges and lemons.

Some of the better known bioflavonoids include rutin, which is defined in the DORLAND'S MEDICAL DICTIONARY as capable of "preventing capillary fragility." Hesperidin, quercetin, pycnogenol from pine bark, and proanthocyanidins are other popular bioflavonoids. While bioflavonoids are known to be essential in the diet of insects, bioflavonoids are not yet considered essential in the human diet.

Proanthocyanidins can exist in a variety of forms, often referred to as grape seed extract. As the science of nutrition matures, we are finding that some of the "star" nutrients of the past may be just "supporting actors" for the real star nutrients. For instance, tocotrienols and Coenzyme Q may be more important than vitamin E in human health. Eicosapentaenoic acid (EPA from fish oil), though not considered essential, may be more important than alpha-linolenic acid (ALA from flax oil), which is considered essential. And bioflavonoids may be more important than vitamin C.

Bioflavonoids are potent chelators, helping to eliminate toxic minerals from the system.<sup>45</sup> Bioflavonoids in general help to reduce allergic reactions. OPC traps lipid peroxides, hydroxyl radicals, delays the onset of lipid peroxidation, prevents iron-induced lipid peroxidation, inhibits the enzymes that can degrade connective tissue (hyaluronidase, elastase, collagenase). Bioflavonoids may inhibit heart disease, stroke, and eye and nerve damage in diabetics.

## **L-CARNITINE 100-2000 MG**

Think of carnitine as the "shoveller throwing fresh coals into the furnace" of the cell's mitochondria. Carnitine was first isolated from meat extracts in 1905, hence the "carnitine", refers to animal sources. Indeed, there is virtually no carnitine in plant foods, with red meats having the highest carnitine content.<sup>46</sup> The typical American diet provides from 5-100 mg/day of carnitine. Humans can manufacture carnitine in the liver and kidney from the precursors (raw materials to make) of lysine and methionine, and the cofactors of vitamin C, niacin, B-6 and iron. A deficiency of any of these precursors may lead to a carnitine deficiency, which involves buildup of fats in the blood, liver and muscles and may lead to symptoms of weakness--all of which is typical in poorly controlled diabetes. Since infants require carnitine in their diet and other individuals have been found to have clinical carnitine deficiencies, some nutritionists have lobbied to have carnitine included as an essential nutrient, not unlike niacin.<sup>47</sup>

Carnitine may help the diabetic patient by:

- ◇ protecting the liver from fatty buildup<sup>48</sup>
- ◇ improving energy and endurance<sup>49</sup>

Carnitine is probably essential in the diet for people who are very young, or sick, stressed, diabetic, older, burdened with toxins, etc.

## **HERBS**

### **BITTER MELON**

This cucumber-like plant grows throughout Asia, Africa, and South America and is widely hailed both in folk medicine circles and from scientific investigation for its ability to lower blood sugar levels. Two ounces of bitter melon juice improved blood glucose levels in 73% of Type 2 diabetics tested.<sup>50</sup> Another study gave 15 grams of extract from bitter melon to produce a 54% drop in after meal (post-prandial) blood glucose and 17% reduction in glycosylated hemoglobin.<sup>51</sup>



## **GYMNEMA SYLVESTRE**

*Gymnema sylvestre* is a plant native to tropical regions of India and has a lengthy record of use in the treatment of both Type 1 and 2 diabetes. Giving *Gymnema* extract to Type 1 diabetics helped to reduce insulin requirements and improve blood glucose regulation.<sup>52</sup> When 400 mg/day of *Gymnema* extract was given to 22 patients with Type 2 diabetes along with their oral hypoglycemic drugs, all patients experienced improved blood glucose control and 5 of these subjects were able to discontinue drug usage altogether, using just *Gymnema* to regulate blood glucose.<sup>53</sup>

## **FENUGREEK**

Once a spice and staple in southeastern Europe and western Asia, fenugreek seeds have long been used in folk medicine to treat diabetes. Today, we know scientifically that fenugreek seed powder is a potent agent for reducing levels of fats and glucose in the blood. Fairly hefty amounts of fenugreek, around 15-50 grams twice daily (at least a heaping tablespoon), are required to seriously lower blood sugar levels.<sup>54</sup> Since defatted fenugreek seed powder is a somewhat bitter substance, it usually requires the person to swallow it in capsules. 50 grams of capsules twice daily is a lot of work. Some people, especially east Indians, use fenugreek powder as a condiment, like we use salt, which makes its use as a supplement much more realistic.

## **SALT BUSH**

Salt bush is a plant native to the Middle East. Researchers in Israel found that 3 grams daily of salt bush capsules provided improved blood glucose regulation in Type 2 diabetes.

## **BILBERRY**

European blueberry, or bilberry, has been used in France since 1945 to treat diabetic retinopathy. A mixture of bioflavonoids in bilberry both reduce blood glucose levels and also protect the macula of the diabetic's eye. Several studies have found enhanced vision in diabetics using bilberry supplements of 80-160 mg three times daily.

## **GINKGO BILOBA (24% HETEROSIDE) 40 MG**

The ginkgo tree is one of the oldest living species on earth, having been around for over 200 million years. The ginkgo tree is an incredibly adaptable and tenacious plant. One ginkgo tree survived the near-ground zero nuclear blast in Hiroshima, Japan. There are now over 1,000 scientific studies published over the past 40 years demonstrating the medicinal value of ginkgo, with ginkgo extract becoming one of the more widely prescribed medications in Europe today. In 1989, over 100,000 physicians worldwide wrote over 10 million prescriptions for ginkgo.

There are several ways in which ginkgo may help the diabetic patient:

- ◇ Vasodilator, expands the tiny capillaries that nourish 90% of the body's tissues, thus bringing oxygen and nutrients to the cells. In doing so, ginkgo improves depression<sup>55</sup> and general circulation to the organs, while reducing the risk for heart disease.<sup>56</sup>
- ◇ Inhibits platelet aggregation, or the stickiness of cells. Stroke and heart attacks are fueled by sticky cells which are generated by Platelet Activating Factor (PAF). Ginkgo inhibits PAF.<sup>57</sup> By modifying PAF, ginkgo helps to reduce inflammation and allergic responses.<sup>58</sup>
- ◇ Antioxidant of exceptional efficiency.<sup>59</sup> Slows down free radical destruction of healthy tissue, therefore protects blood vessel walls, lens and macula of the eyes, nerves and other tissue that normally is exposed to a storm of free radical destruction in the diabetic.

## **GLUCOSOL (EXTRACT FROM LAGERSTROEMIA SPECIOSA L.)**

In a placebo controlled cross over study with 24 diabetic subjects in Japan, corosolic acid (the active ingredient) in the proprietary product Glucosol (available at health food stores) was able to lower blood glucose levels by about 14%, a modest but well documented result.

## GINSENG

Ginseng is one of the world's oldest herbs, used by many cultures over the past 5,000 years. Ginseng is one of the classical "adaptogens", which is an elite group of herbs that improve various aspects of the bodily processes. If a person has high blood pressure, then ginseng will often help to lower it toward normal. If a person has low blood pressure, then ginseng will often help to raise it to normal. No drug has such an unexplainable ability to alter the body's processes in whatever direction they need to go.

In a double blind study, 36 Type 2 diabetics were given either placebo, 100 mg ginseng, or 200 mg ginseng. The diabetics who received ginseng had measurable improvements in mood, body weight, and blood sugar levels. The group that received the highest dosage of ginseng, 200 mg, also had improvements in glycosylated hemoglobin, a sign that blood glucose levels have slowed the destructive "tanning" of blood proteins.

### PATIENT PROFILE

J.W. got very lucky. She developed Type 2 diabetes in her 60s and needed hypoglycemic drugs to control her blood glucose levels. And yet she was diagnosed healthy and non-diabetic within 4 months after starting my program. She asked me: "Which of these foods and nutrients will give me the biggest 'bang for my buck' in reversing my diabetes." I recommended supplements of lipoic acid, bitter melon, chromium, *Gymnema sylvestre*, vitamins E and C; while adding to her diet flax oil, brewer's yeast, vinegar, onions, fish, and lots of cinnamon. Her compliance was amazing and she was very appreciative of her returned better health.

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## CHAPTER 9



### -EXERCISE- THE MIRACLE CURE THAT COSTS YOU NOTHING

*"The only exercise some people get is coughing."  
-Robert Orben, comedian*

What if I had a "miracle cure" in my pocket that would help you:

- lose weight
- eat more without gaining weight, since muscle cells burn 50 times more calories than fat cells
- increase the number of insulin receptors, thus reversing insulin resistance
- lower fasting blood glucose
- reduce serum lipids, i.e. cholesterol and triglycerides
- detoxify the body through sweat and other means
- "cook" off germs by raising body temperature
- relax with the flow of endorphins
- stimulate the brain to be more alert and intelligent
- elevate immune functions, thus protecting you against infections and cancer
- encourage regular bowel movements
- bring more life-giving oxygen to the cells
- strengthen the bones to reverse and prevent osteoporosis
- enhance posture and muscles surrounding the back
- improve sleep
- increase self-esteem
- strengthen the heart
- and much, much more

This miracle cure can be free or very inexpensive. For most people, there are no negative side effects and no addictions. You never have to worry about getting this "prescription" refilled because it is wherever you are. Would you be interested in such a miracle drug? Well, its here and waiting for you. It's called exercise.

Our ancestors were active outdoorsmen. They walked, ran, hunted, farmed, worked, cut wood, ground grain and more. Our bodies are built for regular movement. We function better and live longer and healthier when we have a regular program of exercise. Yet, 30% of Americans admit to getting no exercise, while 60% get very little movement. More than coincidentally, these numbers are the same for the percentage of Americans who are medically obese (30%) and those who are overweight (60%). To boil this chapter down to two powerful sound bites:

- ❖ **"You've got to move it to lose it."**
- ❖ **"Use it or lose it."**

Make sure that you have your doctor's okay to begin your exercise program. Try to make your exercise part of your daily routine. The old saying "No pain, no gain" may apply for the first few weeks if you have been sedentary for quite some time. Waking up your dormant muscles involve some discomfort. Hang in there. It's worth the effort to do 30 to 60 minutes of exercise daily. My story follows this chapter under the heading of "patient profile".



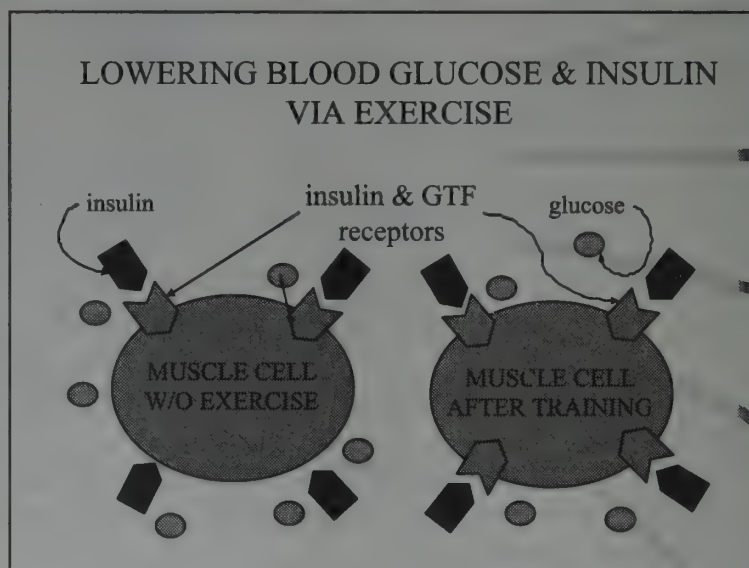
Essential components of an exercise program:

**1) Warm up.** Spend 5 minutes doing some simple stretching. Learn from yoga videos how to limber up the body.

**2) Cardio-vascular endurance.** Spend 15 minutes doing something that gets you sweating; i.e. brisk walking, running, biking, rowing machine, cross country skiing machine, pilates, etc.

**3) Strength training.** Doing pushups, pull ups, dips, or using weights helps to build muscle mass which burns 50 times more calories than fat cells. Exercise forces the body to make more insulin receptors on the cell membrane, which makes insulin more effective in your body.

**4) Cool down.** Spend 5 minutes doing more stretching.



#### *PATIENT PROFILE*

Patrick Quillin (yes, that's me) was writing a book on health and longevity back in 1985. And I felt terrible while doing it. Sitting at my desk all day left me feeling stiff at the end of the day. "What's wrong with this picture" I said to myself. I started following my own advice. Joined a gym. Started doing calisthenics, pull ups, dips, and some free weights. Promised myself that I could not eat breakfast until I had done 1 hour of exercise. Biking, walking, martial arts, swimming, yoga, and rowing machine are all part of my daily routine. At age 54, my health is great. I feel more alert and sleep better. I don't exercise because I think it might help me live a few years longer. I do it because I feel better immediately. And so will you...

## CHAPTER 10



### CHANGING THE UNDERLYING CAUSES OF DIABETES ADDITIONAL THERAPIES THAT MAY HELP DIABETICS

*"A healthy human body is self-regulating and self-repairing."*

Help reverse diabetes by changing the underlying causes of the disease. These are listed in approximate order of importance. Find a health care professional who will help you detect and solve these problems.

"No one with a headache is suffering from a deficiency of aspirin." Few Type 2 diabetics have a deficiency of insulin or hypoglycemic drugs in their system. No one with elevated serum cholesterol is suffering from a deficiency of clofibrate. Arthritis sufferers are not suffering due to lack of cortisone, and cancer patients are not lacking chemotherapy. All of these therapies are short term, symptom-fixing drugs which provide immediate relief, but do nothing to change the underlying causes of a disease.

Studies have proven that patients who undergo coronary bypass surgery have no extension in

lifespan, because no one has changed the cause of the disease by replacing 4 inches of plugged up "plumbing" or arteries near the heart. Same goes for other drugs and conditions. Beta-blockers and diuretics for the 50 million Americans with high blood pressure actually INCREASE the risk for a heart attack by causing a loss of the crucial cardio-protective minerals of potassium and magnesium.

#### COMMON PATHOGENIC CONDITIONS

- Psycho-spiritual
- Toxic burden
- Malnutrition
- Exercise
- Blood glucose
- Redox
- Immune dysfunction
- Gland/organ insufficiency
- Maldigestion
- Chronic infections
- pH
- Hypoxia
- Effects of aging
- Physical alignment
- Energy alignment
- Mechanical injury



The following listing is a very brief description of the underlying causes of disease, listed in order of importance (my

professional opinion). These biological, psychological, chemical and electrical factors have been gleaned and synthesized from such classic works as THE TEXTBOOK OF NATURAL MEDICINE by Drs. Pizzorno and Murray, and OPTIMAL WELLNESS by Dr. Ralph Golan. The ideal combination therapy for any disease would include short term relief with minimal drugs, coupled with the long term goal of changing the underlying causes of the disease. For more information, consult with your health care professional. Naturopathic Doctors (ND) are usually well trained in these theories.

#### FIX WHAT'S BROKE

If you have a zinc deficiency, then a truckload of vitamin C will not be nearly as valuable as giving the body what it needs to end the zinc deficiency. If an accumulation of lead and mercury has crimped the immune system, then removing the toxic metals is more important than psychotherapy. If a low output of hydrochloric acid in the stomach creates poor digestion and malabsorption, then hydrochloric acid supplements are the answer. If a broken spirit brought on the diabetes, then spiritual healing is necessary to eliminate the diabetes.



The need to "fix what's broke" is a prime limiting factor in studies that examine diabetic therapies. In a given group of 100 diabetic patients, based upon my experience, 80 may need counseling to help them with their eating disorder which has generated obesity, 60 may need high dose supplements of fish oil, chromium and others to rectify problems in the insulin receptor on the cell membrane, 5 may need serious detoxification, and 75 have a complex combination of problems. This issue complicates diabetic treatment tremendously and makes "cookbook" diabetic treatment an exercise in futility. Our progress against diabetes has been crippled not only by the complexity of the disease, but also by the need for Western science to isolate one variable. We will eventually help most diabetic patients by fixing whatever bodily function needs repair. This is easier said than done. Finding the underlying problem requires a physician trained in comprehensive medicine.

### *1) PSYCHO-SPIRITUAL.*

Grief, loss of loved one, lack of purpose, depression, low self esteem, hypochondriasis as means of attention, needing love for ourself and others, touching, be here now, sense of accomplishment, happiness, music, beauty, sexual satisfaction, forgiveness, etc..

Researchers at the National Institutes of Health, spearheaded by Candice Pert, PhD, have investigated the link between catecholamines, endorphins and other chemicals from the brain.

The good news is that the mind can be a powerful instrument at controlling stress, overeating, and beginning an exercise program. This "personal responsibility" is a frightening or empowering concept, depending on how you chose to perceive it. Helplessness and hopelessness are just as lethal as cigarettes and bullets.

Ekephalins and endorphins, also called "the mind's rivers of pleasure", are brain chemicals that are secreted when the mind is happy. Endorphins improve the general functioning of the body and blood glucose levels. Depending on your attitude, your mind either encourages or discourages disease in your body.

The take-home lesson here is: You can take a soup bowl full of potent nutrients to fight diabetes while you are being treated by the world's best endocrinologist, but if your mind is not happy and focused on the need for peace and forgiveness in life, then the previous program of nutrition will not be nearly as effective as it should be.

### *2) TOXIC BURDEN.*

INTAKE from voluntary pollutants of drugs, alcohol, tobacco. Involuntary toxins from food, water, and air.

>SOLUTION: DETOXIFICATION (EXCRETION) Via urine, feces, sweat, liver function, other. Some chose chelation therapy, mercury amalgam removal, magnets to neutralize EMF pollution.

### *3) MALNUTRITION*

All creatures on earth are heavily dependent on our nutrient intake for health, vitality, disease resistance, and longevity. See the chapter on malnutrition in America for details.

### *4) EXERCISE.*

Exercise plays a huge role in preventing, controlling, and reversing diabetes. Humans evolved as active creatures. Our biochemical processes depend on regular exercise to maintain homeostasis. A well respected Stanford physician, Dr. William Bortz, published a review of the scientific literature on exercise and concluded: "Our dis-eases may be from dis-use of the body."<sup>1</sup> Exercise stabilizes blood sugar levels and brings oxygen to the body. The most essential nutrient in the human body is oxygen. Westerners typically are sedentary and breath shallowly, which deprives the body of oxygen.

Exercise is an absolutely essential ingredient for the diabetic's health. A primary tool for detoxification, stabilizing blood glucose levels, improving digestion and regularity, proper oxygenation of tissue, stress tolerance, improving hormone output (i.e. growth hormone and DHEA), burning fatty tissue, eliminating harmful by-products (i.e., excess estrogen, uric acid). A wide variety of studies have shown that most diabetics benefit tremendously when incorporating a decent exercise program of 30 minutes each day.

### *5) BLOOD GLUCOSE*

Elevations in blood glucose play havoc on the human body. See the chapter on "glucotoxicity"; killing us sweetly.

**6) REDOX**

Life is a continuous balancing act between oxidative forces (pro-oxidants) and protective forces (antioxidants). We want to fully oxygenate the tissue, which generates pro-oxidants, but we also want to protect healthy tissue from excess oxidative destruction, using antioxidants. Antioxidants are a sacrificial substance, to be destroyed in lieu of body tissue. Antioxidants include beta-carotene, C, E, selenium, zinc, riboflavin, manganese, cysteine, methionine, N-acetylcysteine, and many herbal extracts (i.e. green tea, pycnogenols, curcumin). Diabetics need more antioxidants than non-diabetic people.

**7) IMMUNE DYSFUNCTIONS**

We have an extensive network of protective factors that circulate throughout our bodies to kill any bacteria, virus, yeast or cancer cells. Think of these 20 trillion immune cells as both your Department of Defense and your waste disposal company. The immune system of the average American is "running on empty" and the diabetic is even more trouble. Causes for this problem include toxic burden, stress, no exercise, poor diet, unbridled use of antibiotics and vaccinations, inoculations from world travelers, and less breast feeding.

**8) GLAND OR ORGAN INSUFFICIENCY**

As we age, many glands and organs produce less vital hormones and secretions: including the stomach (hydrochloric acid), pancreas (digestive enzymes), thyroid (thyroxine), adrenals (DHEA, cortisol), thymus (thymic extract), spleen (spleen concentrate), joints (glucosamine sulfate), pineal (melatonin), and pituitary (growth hormone).

Replacing missing secretions often dramatically improves health. Since 90% of Type 2 diabetics are obese and hypothyroidism often manifests itself as obesity, the diabetic needs screening for hypothyroidism to rule this out as an underlying cause of the disease.

**9) MALDIGESTION**

After a lifetime of high fat, high sugar, overeating, too much alcohol, stress, drugs, indigestible foods (i.e., pizza); many Americans have poor peristalsis, insufficient stomach and intestinal secretions, damaged microvilli, imbalances of friendly (probiotic) vs unfriendly (anaerobic, pathogenic) bacteria. One must remove, repair, replace, re-inoculate. Food separation (combinations) may be of value for a brief time until the GI tract recuperates. Digestive enzymes and/or hydrochloric acid taken with meals may help.

**10) CHRONIC INFECTIONS.**

Many Americans suffer from chronic systemic yeast and bacterial infections, and even intestinal parasites. We know that all of us carry the "seeds of our own demise" within us as microbes that wait for our host defenses to lower so that these opportunistic germs can take over. We know that excess antibiotics, which are toxins produced by fungi, can kill the pancreas and induce diabetes. Whenever scientists wish to study the effects of type 1 diabetes in rats, they give antibiotics (streptozocin) to rats to kill the rat's pancreas. There is some preliminary evidence (INFECTIOUS DIABETES, Kaufmann & Holland, Mediatriton, Rockwall, TX 2003) that some diabetics are battling a deep fungal infection that erodes the pancreas and its ability to make insulin and glucagon to regulate blood glucose. By avoiding sugar and building the immune system, we can go a long way toward making our bodies castles that cannot be overrun by the germs, like fungi.

**11) pH (potential hydrogens)**

Acid-alkaline balance (7.41 ideal in human veins) brought about by proper breathing, exercise (carbonic buffer from carbon dioxide in blood), diet (plant foods elevate pH, animal foods and sugar reduce pH), water (adequate hydration improves pH), other agents, such as cesium chloride, citric acid, sodium bicarbonate.

**12) HYPOXIA**

Humans are aerobic organisms. All cells thrive when there is proper oxygenation to the tissue. Red blood cell production is dependent on iron, copper, B-6, folate, B-12, protein and zinc. Adequate exercise and proper breathing help. Cofactors, like CoQ, B-vitamins improve aerobic energy metabolism in cell mitochondria. Fatty acids in diet dictate "membrane fluidity" of all cells and ability to absorb oxygen.



### **13) EFFECTS OF AGING.**

By age 65, the average American has eaten 100,000 lb (50 tons) of food. Poor diet accumulates in chronic sub-clinical malnutrition; such as calcium and osteoporosis, chromium and diabetes, vitamin E and heart disease, vitamin C and cancer. Toxins accumulate in fatty tissue and liver. Chronic exposure to unchecked pro-oxidants eventually creates diabetes, arthritis, Alzheimer's, heart disease, stroke, cancer, etc. Organ reserve is used up in stress and poor diet. The Hayflick principle tells us that we have 55 cell divisions maximum in a lifetime. Once your "bank account" is empty, it is difficult to recover from serious disease. Errors in DNA replication become more common as we age. Telomeres become shortened. The risk for diabetes doubles after age 40.

### **14) PHYSICAL ALIGNMENT**

Spinal vertebrae must be in proper alignment. Chiropractic and osteopathic manipulations on spine, joints, skull plates can be helpful. Accidents, poor muscle tone, and aging create alignment problems. Nerves and blood vessels radiate from the spinal column which can become misaligned and cause compression on these vital channels of energy. Exercise, inversion and physical manipulations from chiropractic or osteopathic physicians may solve these problems.

### **15) ENERGY ALIGNMENT**

Meridians, shakras, and energy pathways were discovered by acupuncturists. Use magnets, acupuncture, electro-acupuncture, and acupressure to correct these problems. Homeopathy probably works on this level.

### **16) MECHANICAL INJURY**

Chronic injury requires hyperplasia, or the growth of new cells. If not properly nourished, new cell growth can become erratic and error-prone.

#### **PATIENT PROFILE**

B. J. was forced by his wife to go to the doctor. His "heartburn" had become so frequent and interrupted too many otherwise pleasant meals with the family. B.J.'s doctor put him on the drug, Tagamet, and his condition seemed to disappear. However, at his next physical, B.J. showed up with high blood pressure at the tender age of 46. His doctor put him on beta-blockers and diuretics and the blood pressure came down. A year later, B.J. started developing severe depression from the impotence that resulted from his high blood pressure medication. His doctor started him on Prozac for that symptom. B.J.'s doctor also prescribed medication for his swollen and tender joints, corticosteroids, that sent his blood sugar levels into full blown Type 2 diabetes. This "shell game" of "hide the symptoms with drugs" continued for a few more years until B.J. started passing blood in his stools and was diagnosed with colon cancer. No one had bothered to ask the simple but essential question: "What is causing these conditions?" In B.J.'s case, a very poor on-the-run diet that was deficient in many nutrients, plus stress, no exercise and the side effects of excess medication came crashing down in a really serious life threatening condition. Find the underlying cause of your diabetes for a long term favorable outcome in your disease.

#### **ENDNOTES**

<sup>1</sup>. Bortz, WM, Journal American Medical Association, vol.248, no.10, p.1203, Sept.10, 1982

## APPENDIX



### **GOOD NUTRITION REFERENCES:**

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### ***WHERE TO BUY NUTRITION PRODUCTS BY MAIL ORDER***

#### **BULK FOODS**

Cortland Health Foods  
64 Main St.  
Cortland, NY 13045  
ph. 607-756-8811

Jaffe Bros. Inc.  
28560 Lilac Rd.  
Valley Center, CA 92082  
ph. 760-749-1133  
[www.organicfruitsandnuts.com](http://www.organicfruitsandnuts.com)

#### **BUYING NUTRITION SUPPLEMENTS ON THE INTERNET**

[www.Lef.org](http://www.Lef.org)  
[www.iHerb.com](http://www.iHerb.com)  
[www.VRP.com](http://www.VRP.com)  
[www.VitaCost.com](http://www.VitaCost.com)  
[www.TidHealth.com](http://www.TidHealth.com)  
[www.TheHealthGuide.com](http://www.TheHealthGuide.com)  
[www.ImmunoPower.com](http://www.ImmunoPower.com)  
[www.MotherNature.com](http://www.MotherNature.com)  
[www.TheHealthDepot.com](http://www.TheHealthDepot.com)  
[www.NatureMade.com](http://www.NatureMade.com)

#### **LARGE STORES THAT SELL VITAMINS, MINERALS, & SOME HERBS BY MAIL**

NutriGuard, 800-433-2402, [NutriGuard.com](http://NutriGuard.com)  
Life Extension Foundation, 800-544-4440, [LEF.org](http://LEF.org)  
Health Center for Better Living, 800-544-4225  
Vitamin Research Products, 800-877-2447, [VRP.com](http://VRP.com)  
Vitamin Trader, 800-334-9310, [VitaminTrader.com](http://VitaminTrader.com)  
Willner Chemists, 800-633-1106, [Willner.com](http://Willner.com)



**STORES THAT SPECIALIZE  
IN SELLING HERBS BY MAIL**

- Gaia Herbs, 800-831-7780, GaiaHerbs.com
- Frontier Herbs 800-669-3275; fax 800-717-4372, Frontiercoop.com
- Blessed Herbs 800-489-HERB; fax 508-882-3755, BlessedHerbs.com
- Trout Lake Farm 509-395-2025
- San Francisco Herb Co. 800-227-4530, SFHerb.com
- StarWest 888-369-4372, StarWestBotanicals.com

**RECOMMENDED COOKBOOKS**

- The Health Lover's Guide to Super Seafood, Tom Ney
- Eat Well, Live Well, Pamela Smith
- Natural Foods Cookbook, Mary Estella
- The Healthy Gourmet Cookbook: How to --
- Use Natural Foods Deliciously, Barbara Bassett
- Eat Smart for a Healthy Heart Cookbook, Dr. Denton Cooley
- Simply Light Cooking, Kitchens of Weight Watchers
- Healthy Life-Style Cookbook, Weight Watchers
- The American Health Food Book, Robert Barnett
- The Chez Eddy Living Heart Cookbook, Antonio Gotto Jr.

**DIABETES SUPPORT  
ORGANIZATIONS**

American Diabetes Association  
1701 N. Beauregard St  
Alexandria, VA 22311  
ph.800-342-2383  
[www.diabetes.org](http://www.diabetes.org)

Canadian Diabetes Association  
National Life Building  
1400-522 University Ave.  
Toronto, Ontario M5G 2R5  
ph.800-226-8464  
[www.diabetes.ca](http://www.diabetes.ca)

National Diabetes Program  
Indian Health Services  
5300 Homestead Rd NE  
Albuquerque, NM 87110  
ph.505-248-4182  
[www.ihs.gov](http://www.ihs.gov)

Centers for Disease Control and Prevention  
4770 Buford Hwy NE, Mail Stop K-10  
Atlanta, GA 30341-3717  
ph.877-232-3422  
[www.cdc.gov/diabetes](http://www.cdc.gov/diabetes)

Juvenile Diabetes Research Foundation  
120 Wall St.  
NY, NY 10005  
ph.800-533-2873  
[www.jdrf.org](http://www.jdrf.org)

Taking Control of your Diabetes  
1110 Camino Del Mar #B,  
Del Mar, CA 92014  
ph 800-998-2693  
[www.tcoyd.org](http://www.tcoyd.org)



# Senior Citizens with Money in the Bank Should Read This Before It's Too Late

If you have worked hard all your life and managed to put away a nest egg, you might end up losing most of your life savings because of a defect in Medicare.

If you or your spouse suddenly become ill and require extended nursing home care...NO ONE will help you with the nursing home bills. Medicare won't and neither will your health insurance. By law you are responsible for the nursing home bills yourself. Only after you have used up virtually all of your money, will Medicaid step in. That's because Medicaid, like Welfare, only aids the poor. By some estimates, the average couple's life savings can be wiped out after only 13 weeks of nursing home care.

Rich people don't have to worry because they can afford super-expensive special nursing home insurance, while the poor are taken care of by Medicaid.

Now that just doesn't seem fair to working people with a lifetime of hard-earned savings. The system they have supported with tax dollars, seems to have forgotten them. Savings intended to provide security in retirement, or help for children, can quickly go up in smoke.

The fact is, if you don't know how to protect your assets, here's what can happen to you. By law, before Medicaid will pay nursing home bills, you may have to spend all your countable assets except \$2000 (or as low as \$1500 in some states). Countable assets mean not only money in checking and savings accounts...but also any funds in CD's, IRA's, Savings Bonds, Mutual Funds, stocks, whole life insurance, annuities and other types of investments, as well as most trust assets.

They can also take a vacation home or a second car.

In addition, (except for a small personal spending allowance and a health insurance payment allowance) your entire Social Security or pension check can be taken to cover nursing home expenses. What's more, if you are single or widowed, you can even lose your house.

According to the federal law called the Spousal Impoverishment Act, if one spouse requires extended nursing home care, the healthy spouse can be forced to surrender HALF of their combined countable assets. And if you have a sizeable estate, they can legally take MORE THAN HALF.

Is there anything you can do to stop this nightmare from happening to you? Yes. You are protected by law and can use several legal techniques to place your countable (or vulnerable) assets into the uncountable (or protected) category. The problem is, most people are not aware of their legal rights. Unfortunately, most people think Medicare will take care of them, so they unknowingly leave their assets vulnerable and in jeopardy.

Your legal rights and the many methods of protecting your money are now revealed in "How to Protect Your Financial Security." This financial self-defense manual tells you simple legal procedures for preserving your money and warns of pitfalls to avoid. Here is some of the valuable material you learn:

- Legal ways to turn countable (or vulnerable) assets into uncountable (or protected) assets
- How to protect your house from being sold to pay your nursing home bills
- How to protect a second car or vacation home
- If you give your money to your children without

following these precise guidelines, a nursing home could get your money anyhow

- What you need to know about Living Trusts
- What lawyers never tell you about protecting your will

As a hard-working taxpayer, you have a legal right to protect your life savings for yourself, your spouse or your heirs. You don't have to be rich to have peace of mind. You just have to follow the easy steps outlined in "How to Protect Your Financial Security."

Although "How to Protect Your Financial Security" can easily save you thousands of dollars, the price is very reasonable. Right now, you can receive a special press run for only \$12.95 plus \$2.00 postage and handling. It is not available in any bookstore. It is only available through this special offer on a 90 day Money Back Guarantee. If you are dissatisfied in any way, just return it in 90 days for a full refund, no questions asked.

Order an extra copy for family or friend and SAVE. You can order 2 for only \$20 total.

HERE'S HOW TO ORDER: Just PRINT your name and address and the words "Financial Security" on a piece of paper and mail it along with a check or money order to: THE LEADER CO., INC., Publishing Division, Dept. FBX500, P.O. Box 8347, Canton, OH 44711. (Make checks payable to The Leader Co., Inc.) VISA or MasterCard, send card number and expiration date. Act now. Don't leave your assets in jeopardy.

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## FREE Mini Bible for Troubled Hearts

(SPECIAL) - "A merry heart doeth good like a medicine: but a broken spirit drieth the bones." Proverbs 17:22.

If life's troubles sometimes seem too much to handle, you can get peace of mind. Right now you can

receive a Free "Mini Bible for Troubled Hearts" without any obligation. Print your name and address on a piece of paper and mail to: Free Offer, Dept. FM325, 931 N. Main St., Suite 101, North Canton, OH 44720.



# Hydrogen Peroxide Can Heal What?

Medical science has discovered that hydrogen peroxide is more than just a disinfectant, it's an amazing healer. Many doctors are using hydrogen peroxide to treat a wide variety of serious ailments such as: **heart problems, clogged arteries, chest pain, allergies, asthma, migraine headaches, vascular headaches, cluster headaches, yeast infections, type II diabetes, emphysema, chronic pain syndromes, and more.**

Average consumers are also discovering that hydrogen peroxide has tons of health, beauty and household uses. A new handbook called *"The Amazing Health and Household Uses of Hydrogen Peroxide"* is now available to the general public. It shows you home remedies using diluted hydrogen peroxide and how to mix it with ordinary household items like baking soda, lemon, vinegar and salt to help:

- Soothe ARTHRITIS PAIN
- Make SORE THROATS feel better
- Ease the pain of BEE STINGS and INSECT BITES
- Treat ATHLETE'S FOOT
- Ease the PAIN OF RHEUMATISM
- Clear up FUNGUS and MINOR INFECTIONS
- Help treat minor BURNS
- Treat BRUISES and RASHES
- Soothe ACHING MUSCLES, JOINTS &

## SORE FEET

Hydrogen peroxide is truly amazing. Scientists have found it is involved in virtually all of life's vital processes. It stimulates the immune system, helps your body fight off viruses, parasites and bacteria. It also regulates hormones and is involved in the production of energy in the body's cells. That's just a few of the amazing things it does.

It's also a great alternative to harsh toxic chemicals and cleaners around the house. *"The Amazing Health and Household Uses of Hydrogen Peroxide"* also shows you how to make easy peroxide recipes for:

- A powerful bleaching formula for formica
- A fantastic homemade scouring powder
- The perfect drain cleaner for clogged drains
- A dishwasher detergent that makes dishes gleam
- An oven cleaner that eliminates elbow grease
- A great rust remover formula
- A tile cleaner that works like magic
- A little known formula that really cleans old porous tubs
- A solution to help house and garden plants flourish
- Use this formula to clean your pets
- This spray keeps a leftover salad fresher
- Ever wonder what happens to meats and

fish before you bring them home? Here's a safety-wash for meat and fish

- A spray that's great for sprouting seeds
- Here's a sanitizing vegetable soak
- A denture soak that works great
- A tooth whitener that makes teeth sparkle
- A super polish for copper and brass
- A spot lifter for coffee, tea and wine stains

You'll learn all this and more in this remarkable book. In addition, you also get an extensive list of qualified doctors across the United States and even some in Canada who regularly use hydrogen peroxide in their practices to treat serious ailments.

Right now you can receive a special press run of *"The Amazing Health and Household Uses of Hydrogen Peroxide"* for only \$8.95 plus \$2.00 postage and handling. You must be completely satisfied, or simply return it in 90 days for a full refund.

**HERE'S HOW TO ORDER:** Simply PRINT your name and address and the words "Hydrogen Peroxide" on a piece of paper and mail it along with a check or money order for only \$10.95 to: THE LEADER CO., INC., Publishing Division, Dept. HPT829, P.O. Box 8347, Canton, OH 44711. VISA, MasterCard, send card number and expiration date. Act now. Orders are fulfilled on a first come, first served basis.

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# Doctor Tips on Chest Pain and Clogged Arteries

If you regularly have chest pain, ringing ears or even leg pain...your arteries may be clogged...and you may be on your way to a heart attack or stroke. A remarkable health guide by Dr. Edwin Flatto is now available that reveals a medically tested method that can stimulate your arteries to cleanse themselves – the natural way – without drugs or surgery.

It's called "Cleanse Your Arteries & Save Your Life." And it shows you exactly how nature can activate your body's built-in artery cleansing mechanism once you stop eating the wrong foods. It also warns you of the potential danger of certain so-called "cholesterol" diets.

Your own doctor will tell you that partially blocked arteries can produce many of the following symptoms. And he'll also agree that many of these symptoms may be improved once circulation is enhanced and the cleansing process begins. "Cleanse Your Arteries & Save Your Life" is based on documented scientific principles that can help:

- Reduce chest pain (angina)
- Reduce the risk of bypass surgery
- Lower the incidence of heart disease
- Reduce dizziness & loss of balance

- Improve a partial loss of hearing
- Help clear up ringing in the ears
- Help clear up leg pain, cramps or tiredness in the legs
- Stimulate your body to produce a natural substance that seems to protect against heart attack
- Make your body dispose of cholesterol
- Thin out sludgy, poor circulating blood
- Reduce blood triglyceride levels
- Lower high blood pressure naturally

By following Dr. Flatto's advice you can feel better than you have in years. You'll learn which delicious foods to eat and which to avoid. And you'll probably have more energy than you know what to do with. Here's just a small sample of the useful and helpful information you'll find in this valuable aid to better health.

- When women run higher risks for heart attacks
- Which vitamins seem to offer protection against heart disease
- Which popular health foods may be dangerous.
- The real truth about chelation therapy

- The real truth about Omega-3 fish oils
- The real truth about polyunsaturated fats
- How to calm your nerves naturally
- What simple food helps you lose weight
- Relieve gas and constipation naturally

Right now, as part of a special introductory offer, you can receive a special press run of "Cleanse Your Arteries & Save Your Life" by Edwin Flatto, M.D. for only \$8.95 plus \$2.00 postage and handling. It is not available in any bookstore. It is only available through this special offer. Your satisfaction is 100% guaranteed. If you are dissatisfied in any way, simply return it in 90 days for a full refund-no questions asked.

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